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Barite Hill/Nevada Goldfields HRS Documentation Record EPA ID No. SCN000407714

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LOCKHEED MARTIN

DATE:

June 22, 2007

TO:

Don Bussey, U.S. EPA/ERT Work Assignment Manager

THROUGH:

Parry Bhambra, REAC Operation Section Manager

FROM:

Jon McBurney, REAC Task Leader Dowl 6/22/67

SUBJECT:

FIELD ACTIVITIES (MARCH 26 - 30, 2007 and MAY 22, 2007)

BARITE HILL GOLD MINE, MCCORMICK, SC WORK ASSIGNMENT NO. 0-247 - TRIP REPORT

A. BACKGROUND

On February 2, 2007, Response Engineering and Analytical Contract (REAC) personnel were tasked to provide technical support to the Environmental Protection Agency /Environmental Response Team (EPA/ERT) and EPA Region IV regarding the Barite Hill Gold Mine Site (Site). Specifically REAC personnel will assist with performing a Removal Site Evaluation (RSE) as per 40 CFR 300.410 of the mine and determine its impact on the surrounding areas.

The Barite Hill Gold Mine is an inactive gold mine located approximately three miles south of McCormick, South Carolina (SC). The mine actively mined gold from 1991 to 1995. Between 1995 and 1999, the site was undergoing reclamation activities under the direction of Nevada Goldfields. In 1999, Nevada Goldfields filed for bankruptcy and the site has been under the control of the South Carolina Division of Health and Environmental Control (SCDHEC) since then.

The Site is located along a topographic high ridge area forming the headwaters of an unnamed tributary to Hawes Creek. The topography of the area consists of rolling hills with ridgelines at an elevation of approximately 510 feet. The permitted mine site totals 795.2 acres of which 659.7 acres are designated as buffer area. The site map is provided as Figure 1.

The facility used a cyanide solution in a heap leach process to extract gold from ore. Persuant to this method of extraction, there are three major waste rock piles contaminated with cyanide, eight processing ponds, several processing building with associated piping, and the large Main Pit from which the ore was mined. The Main Pit is now filled with pH 2 to 2.2 water with a high dissolved metal content. The surrounding rock contains a large amount of Barite (BaSO₄) and Pyrite (FeS₂). The weathering of the pyrite has depressed the pH of the Main Pit water. Seeps from the Main Pit containing the acidic water are impacting the unnamed tributaries of Hawes creek. Hawes Creek flows generally south and discharges into Strom Thurmond Lake.

In December of 2003, the SCDHEC performed a site investigation. The investigation reported elevated levels of arsenic, cobalt, copper, cyanide, iron, lead, manganese, selenium and zinc in surface water, groundwater and soil samples.

The EPA Region IV Emergency Response and Removal Branch (ERRB) On Scene Coordinator (OSC) has requested ERT assistance in completing a RSE regarding the impact to Hawes Creek and ultimately Strom Thurmond Lake under normal weather conditions and during catastrophic weather (hurricane, etc.) over a short term and longer term period.

B. FIELD TASKS

On March 26 through March 30, 2007, REAC team members McBurney, Holderness, Grossman, Nigro, Gussman and Dubois along with ERT members Bussey, Fredericks, and Powell visited the site to complete an environmental investigation. The REAC team completed the following tasks:

Task 1: Biological Assessment of Unnamed Tributaries to Hawes Creek.

REAC personnel with the assistance of a representative from the United States Fish and Wildlife Service (USFWS) and a representative from ERT, conducted a streamlined ecological assessment of impacted streams that border Site discharge areas in order to define the extent of the impact to the streams.

The biological assessment was based on the EPA Rapid Bioassessment Protocol I. The REAC team walked the stream, beginning upstream of the impacted area. Using the EPA Protocol, personnel visually inspected the stream life, recorded water quality measurements such as pH and conductivity, and took such samples of sedimentary areas as were deemed appropriate by the ERT representative at the time of the walkthrough. All sample locations were recorded using a global positioning system (GPS) unit. Sediment samples were submitted for Target Analyte List (TAL) metals analysis, cyanide analysis, and weak acid dissociable (WAD) cyanide. The team investigated the stream that flows from south to north along the eastern side of the site, joins with another small stream and proceeds west along the northern border of the site. At the western edge of the site, the stream merges with an unnamed tributary to the south and Hawes Creek from the north. The investigation included sample locations in tributaries, Hawes Creek, and continued approximately one kilometer downstream of the site.

Task 2: Estimate the impact into the creek from the Main Pit during normal and catastrophic conditions.

To accomplish this task, REAC personnel investigated the following items:

- Measure the water level fluctuations of the pit lake. A Minitroll[™] automatic water level recording device was installed in the pit lake. The minitroll was programmed to record the water level every hour. The minitroll was downloaded during the second site visit on May 22, 2007 and the data was compared against regional precipitation events.
- b. Determine the elevation difference between the top water level in the pit and the seep elevation. A relative survey was conducted to determine the difference in elevations of the seep and the pit water level to determine the hydraulic head acting on the seep.
- c. Determine evaporative losses. Using historical data, an evaporative loss rate was determined.

- d. Determine the flowrate of the creek pre- and post- seep. The creek was investigated to determine the flowrate before the seep and after the seep. Observations were recorded to estimate flowrates where possible.
- e. Calculate the water balance. Given the influx, evaporative rate and water level changes, the flowrate of low pH water from the pit was estimated. This flowrate, along with historical contamination levels in the pit can be used to determine the contaminant loading to the creek under normal circumstances. The seep flowrate was used as a check against influx from springs in the pit or other sources of water.
- f. To determine catastrophic impacts, the expected rainfall from a hurricane type event was obtained and, based on the pit lake surface area and drainage basin area, the approximate rise in pit lake elevation was estimated.

Task 3: Process pond sampling.

To investigate the process ponds, REAC personnel collected a composite sample of the sediments in nine ponds. An estimation of the depth to sediment and depth to bottom was also taken in several places in each pond. The available freeboard of each process pond was identified to determine the possibility of overflow during precipitation events. Any likely paths of discharge were identified.

Water samples were collected from each process pond for Nitrate and Sulfate analyses. These samples were field screened using HACH field portable test kits. Water samples were also collected from the leakage detection pits under each process pond. These samples were submitted to the Region IV CLP laboratory for TAL Metals, cyanide, and WAD cyanide analyses.

Task 4: Process area equipment waste investigation.

In the process area of the mine, remaining process equipment was investigated, documented, and any residual wastes were sampled. The samples were analyzed using a hazardous waste categorization (HAZCAT) protocol to determine the physical characteristics of each type of waste. The HAZCAT results were given directly to the WAM and OSC so that the OSC could determine the hazards of the remaining materials and to assist with determination of the removal/disposal of the wastes.

Task 5: Other Sample Analysis.

Several samples were collected at the request of the ERT WAM and the OSC. These samples included a precipitate located at the drainage entrances to ponds G and H. A sample was collected from a large stockpile of white powder located near the main entrance to the site. A sediment sample was also collected from the ingot room sump. These three samples were submitted to the CLP laboratory for TAL Metals, total cyanide and WAD cyanide.

C. RESULTS

Biological Assessment of the Unnamed Tributaries to Hawes Creek

A REAC biologist/plant scientist, biological technician, ERT biological scientist, and a representative of the U.S. Fish and Wildlife Service walked along streams surrounding the Barite Hill Mine Site for evaluation

purposes. This investigation included stream areas upstream, downstream, and adjacent to the site. Biota, water chemistry, general stream conditions, and other parameters were evaluated at several selected locations. EPA's Rapid Bioassessment Protocol for Use in Streams and Wadeable Rivers was used to evaluate impact and relative conditions in the streams. Field Data Sheets were filled out for several locations on the streams bordering the northern and southern perimeter of the site, and at selected locations where significant changes may potentially occur (i.e. upstream and downstream of seeps and outfalls). These streams are extremely small and shallow at their upstream reaches, gaining size and water volume as they flow in a generally westward direction and receive input from other streams and groundwater influx.

Two main, unnamed streams border the site. One originates from several small streams northeast of the site. It runs adjacent to the site beginning on the northeast part of the site, very close to the "Main Pit". This northern stream follows the northern contour of the Main Pit and then flows parallel to the northern edge of the site in a generally westerly direction. The other stream follows the southern and western edge of the site. Several small streams to the south and southeast of the site join. One of these borders the southeast of the site and runs close to, and occasionally receives overflow, from the Main Leach Pile Process Ponds. This stream than joins another small stream and continues west along the southern edge of the site, and then northwest parallel to the western edge of the site where it passes near Outfall 1. This stream then joins the above stream flowing along the northern edge of the site at a point on the northwest boundary of the site. These two streams join into Hawe's Creek which comes in from the north. Hawe's Creek then flows in a general westerly direction away from the site, occasionally joined by other small streams and eventually flows into Lake. The majority of these stream lengths occur in wooded areas typical of the region. These streams are shown in Figure 1. Areas of examination were given an identification number in the field, beginning with "BH-247-1" through "BH247-29". Each location was recording using GPS at the time of observation.

The field data sheets provided in Appendix A detail a record of the characterization of these streams at the time of observation. Physical characterization and other conditions are noted at each location. In addition, there is a "habitat assessment sheet" in which several parameters of the stream are evaluated and given a relative numerical score. This number is used to compare the relative quality of the physical habitat. The relative quality represents suitability for colonization by a diverse ecological community. The numerical scoring is used in conjunction with the Benthic Macroinvertebrates Field Data Sheet, which provides a record of the macroinvertebrate diversity and numbers observed at each location. Freshwater invertebrates play important roles in the ecological community. They are used more often than any other group of freshwater organisms to assess the health of freshwater environments. Some groups of these organisms are more sensitive to environmental stress or certain types of environmental stress than others, allowing biomonitoring of the habitat where they are collected. A summary table of the Habitat Assessment scores, the Macrobenthos diversity noted at each location, and an average Macrobenthos Abundance score is provided in Table 1. A detailed sample map is provided as Figure 2. For the Macrobenthos Average Abundance (MAA) score, the abundance scores of each separate benthos community were averaged for each location. Abundance scores for each species were rated from 0 to 4 based on the following:

- 0 Absent/Not Observed
- 1 Rare (1-3 Organisms)
- 2 Common (3-9 Organisms)
- 3 Abundant (>10 Organisms)
- 4 Dominant (>59 Organisms)

The MAA score is a direct correlation of the estimated abundance score of each species. Based on the same

0-4 scale, an average MAA score of 4 would mean that all communities were in great abundance. An average MAA score of 1 would indicate that the populations were very slight.

It should be noted that the stream habitat does not change throughout most of the survey area as indicated by the habitat scores. There is evidence that these streams are heavily scoured after rainfall events. That is, they probably act to channel a great deal of storm run-off. There is evidence (scouring and erosion) that during these events, water levels are several feet above the currently observed water levels and swiftly moving. This scouring most likely displaces a lot of the organisms and creates a much more unstable environment. The banks of these streams are heavily eroded in many areas.

Based on the MAA and Diversity Scores, the impact of the seep can be seen. The areas outside of the seep area indicate that the streams in their natural states are not highly habitated. However, in the area of the seep, the diversity and abundance of all species lessens almost to extinction. As previously discussed, this extinction cannot be explained by the habitat scores.

Other possible reasons for low overall abundance and diversity downstream of the seep are water chemistry and influence from the seep. Chemistry of water and sediment provides more apparent results. Water quality measurements taken during the investigation are detailed in Table 2 with the full analytical report attached as Appendix B. Nitrate and Sulfate screening values are provided in Table 3. TAL Metals and Cyanide analysis results for the stream sediment samples are listed in Table 4. The extremely low pH (pH 2.76) and high Sulfate content (>200 milligrams/Liter (mg/L)) found after the seep area at location BH247-9 are the indicators of the impact from the main pit. Analytical results indicate that the streams metals content is consistent throughout. The sulfate content and low pH seem to indicate that the sulfate rich low pH water from the Main pit is indeed seeping into and impacting the stream. The impact area can be seen on the pH Map (Figure 4) And the Bioassessment Map (Figure 3).

Several relatively large and currently active beaver dams were observed along this northern stream, even in the areas of low pH water. The first dam was observed just below BH247-10 and several other dams were found between BH247-10 and BH247-14. It can be assumed that the beaver dams are causing sediment deposition upstream of the dams. This sediment makeup can be assumed to be consistent with the sediment sampled at location BH247-13. The sediment at that location contained elevated levels of Aluminum (15,000 mg/kg), Copper (3,700 mg/kg), Iron (15,000 mg/kg), magnesium (1,200 mg/kg) and zinc (1,300 mg/kg). A sediment volume estimate is not available.

Estimated Impact Into Creek from Main Pit

The results from this study yielded the expected rate of seepage from the Main Pit into the unnamed tributary of Hawes Creek. The resultant seepage rate from this investigation is on the order of 5 gallons per minute (gpm). Using this flowrate and historic data from the Main Pit, the contaminant loading into the creek can be estimated.

In order to calculate this seepage rate, the following steps were completed:

1. Main Pit Water Level. A MinitrollTM automatic water level recording device was installed in the pit. This device was programmed to record the water level above the device every hour. This data was downloaded on May 21, 2007. The raw data is attached as Appendix C. Also included in Appendix C is a graph of the water level change over the measured period. However, the measurement period includes only approximately two months. Better analysis could be made with

more data.

- 2. Elevation Survey. A relative elevation survey was conducted to determine the distance from the water level in the Main Pit to the water level in the impacted stream. The elevation survey is summarized in Table 5. The distance from the Main Pit water level to the stream was measured as between 23.4 and 24.6 feet. The raw survey data is attached as Appendix D.
- 3. Calculation of Evaporative Losses. Quality controlled daily weather observations for both Greenwood County Airport (GRD) located in Greenwood, SC and Greenville-Spartanburg Airport (GSP) located in Greenville, SC were obtained from the National Climatic Data Center. These data were used, as detailed in Appendix E, to calculate evaporative loss rates for April 2007 and May 2007. The April evaporation rate was calculated to be 23.7 cm/month. The May evaporation rate was calculated to be 26.9 cm/month.
- 4. Stream Flowrates. A study was completed to determine the stream flowrate in several different portions of the streams surrounding the Main Pit. The stream following the eastern side of the Main Pit is the most heavily impacted by the seep from the pit. Upstream of the seep area, the creek is mainly stagnant, with little to no indication of movement or velocity. As the stream flows north along the pit, the observed flow rate increases. The size and geometries of the creek forced modifications to the initial plans of flow estimation. The current meter intended was much too large to be used, and in areas where it could be deployed, the current was much too slow to be measured. Visual observations were made regarding velocities, using surface objects and a stopwatch. The flow areas were measured using a tape measure. Where possible, the flow rate was calculated by timing the period required for the steam to fill a 9 ounce cup. The calculations are attached as Appendix F. A summary table of all velocities and corresponding flowrates is listed in Table 6. The final measurable stream flowrate at BH-247-8 was 4.2 gpm. It should be noted, however that this flowrate includes a tributary that was measured to be flowing at 1.4 gpm (location BH247-7). Downstream of the last measurement, the creek became much wider and much slower moving. Measurements could not be obtained. Based on the previous measurements and observations, the stream continued to gain water as it passed the northern portion of the Main Pit. Based on these observations, an estimate was made that the total seep flowrate was on the order of 5 gpm.
- 5. Water Balance. Using all of the measured data, a water balance was created for the Main Pit. Using data for 24 hour periods, 11 days were chosen to calculate the water balance. Based on the calculations summarized in Table 7, an influx source of water must exist for the water to balance. Per the calculation, between 7 and 35 gpm must flow into the pit from an alternate source for the balance to be maintained. This influx could be from fractures in the rock, natural springs, or other seepage from groundwater. These calculations assume the 5 gpm rate of discharge into the stream. If the flowrate into the stream were to increase, more influx water would be required to maintain the balance

It is unclear as to the effect that a catastrophic rain event would have on the seepage rate into the creek. Based on the historic water level data, there does not seem to be a major change in the water balance due to changes in Main Pit water levels. Rain events notably increase the levels in the Main Pit by the approximate amount of rainfall that occurred, but the rate at which the level subsides after a rain event is consistent with the rate during which no rain events occur. The equivalent rise in water level with rainfall indicates that the drainage basin for the Main Pit is approximately the size of the pit. This agrees with visual reconnaissance made during the field visits. Most of the cliffs surrounding the pit reach their highest elevations at the pit,

causing most runoff to run away from the pit. The lack of a major change in the rate of elevation change in the pit seems to indicate that the change in hydraulic head above the creek does not severely impact the seepage rate for the period measured during this study.

A catastrophic 100 year event of 16.2 inches of rain over a 24 hour period (See Appendix G for this calculation) would cause approximately 16.2 inches of rise in the water level of the pit. There was no visual evidence that a significant rainfall event would cause a catastrophic failure of the Main Pit. The creeks would likely be more impacted by the surface runoff from the area, causing most of the settled sediment to be washed down the creek. The 250 year storm event of 36.6 inches of rain in a 24 hour period would also cause a proportional rise in the pit level. Due to the limited data available from this study, the net effect on seepage rate for either storm event cannot be determined. A second point of pit water elevation verses creek flow rate data would be required to estimate the change in seepage rate.

Process Pond Sampling and Investigation

Pond Identification and pH Results. The process ponds are divided into two sets. The first set was labeled Pond A, B, C, D, and E. These ponds are located next to the processing area as shown on Figure 5. The second set is Ponds F, G and H. These ponds are located south of the Main Leach Pile. One other pond was added to the sampling, pond I. Pond I is a surface water runoff collection pond and was not used in the processing operation. The pH of each pond was recorded and is detailed in Table 17. All ponds were between the pH of 6.85 and 9.3.

Sediment Sampling. As per the site Quality Assurance Project Plan, sediment samples were collected from each process pond. The sediments were collected using a ponar sampling device. Sediments were composited on the surface in a stainless steel pan. A minimum of two depth samples were used to create the composite sample. No sample was available from the sloped sides of the ponds. Sediment samples were submitted to the Region IV CLP laboratory for TAL metals, Cyanide, and WAD Cyanide. The results are provided in Table 8. Elevated levels of Calcium, Copper, Iron, and Aluminum were found in all ponds with the exception of ponds E and I. Pond E was not lined, and was acting as an overflow receiver for ponds A, B, C, and D. Pond I was a surface water collection basin, and was not used during the heap leach process. Ponds A and C had elevated levels of total Cyanide, 2,200 mg/kg and 1,700 mg/kg respectively. Elevated levels of Calcium may be due to treatment of the pond waters with a calcium compound.

Sediment Depths/Volume Estimates. Sediment depths were recorded at multiple locations in each pond. In general, a transect was chosen to intersect the suspected sump of each pond. Sediment depths were measured and recorded at approximately 10 to 20 foot intervals. The raw data and calculations are provided in Appendix H, with a summary of the average sediment thickness and estimated sediment volumes provided in Table 9. Sediment estimates ranged from 13 cubic yards in pond D, to 3,368 cubic yards in Pond G. Ponds F and G are heavily impacted by drainage channels that drain directly off of the Main Heap Leach Pile. No estimate was generated for Ponds E or I as neither pond is lined. Pond E's liner was found to have been removed. The surface area for each pond for this calculation was estimated from aerial photography.

Pond Free Volumes. The freeboard area of each pond was calculated by performing a relative elevation survey of each pond. The raw survey data is attached as Appendix D. The free volume was calculated by multiplying the surface area of the pond (as measured previously from aerial photography) by the remaining elevation to the lowest point on the berm. The individual free volume results are provided in Table 10a.

It should be noted that the ponds were designed and constructed with channels between ponds. At the time

of the survey, only pond D was not fully hydraulically connected to the other process area ponds. However, for this investigation, should each pond fill to its capacity, they would be in complete hydraulic communication with the other ponds. Based on this "system" of behavior, the lowest point of the berm of all ponds was used to determine the system capacity prior to failure. For the process area ponds (A, B, C, D, and E) this total volume is shown in Table 10b. to be 2,804,000 gallons. The distance from the surveyed water level to the point of failure was 0.85 feet. The failure point was recorded as survey point 1 or the north west corner of Pond A as shown on Figure 5. The excess capacity of this system is due primarily to the added pond E which adds significant capacity to the system. It should be noted that areas of strong erosion were noted on the banks of pond E. Should one of these banks fail due to erosion, a significant release could occur. The volume of this release would be controlled by the depths of the cross channels connecting the various ponds. A volume estimate could not be calculated due to the unknown channel depths.

The southern process ponds (F, G, and H) contained no freeboard at the time of the survey. This was due to the fact that pond H was currently breached along its southern side. All calculations of system free volume were based on the assumption that this breach would be rectified. Should this be the case, the next failure point would have been point 106 in pond G as shown on Figure 5. The system free volume using this point was calculated at 245,000 gallons corresponding to 0.22 feet of freeboard as detailed in Table 10c. Any rainfall event would cause immediate discharge from these ponds currently at survey point 111A. A catastrophic rainfall event could cause discharge from other points along these process ponds.

Tables 11a. and 11b. list the remaining volumes in the pond systems after catastrophic rainfall events. The rainfall amounts for the 100-year and 250-year storms calculated in Appendix G were used to determine the amount of water in gallons that would impact the pond systems. For this calculation, only rainfall falling directly on the ponds was used. No drainage basins have been added to this calculation. For the process area pond system, the ponds were able to contain both the 100 and 250-year rainfall amounts. The southern process ponds were not able to contain either storms. Approximately 1,260,000 gallons of water would be discharged from the southern process ponds in the event of the 100 year storm. These process ponds are also heavily impacted by drainage from the heap leach pit as shown on Figure 5. Any storm runoff from the heap leach pit would not be contained.

Process Pond Water Sulfate and Nitrate Results. Surface water samples were collected for field screening of nitrates and sulfates. Most pond samples contained in excess of the 200 mg/L upper detection limit for sulfates. The only exceptions were pond D and Pond L. Full results are tabulated in Table 12. No appreciable pattern was noted in the nitrate results for the process ponds.

Leakage Detection Pit Sampling. Each process pond with the exception of Pond E and Pond I is equipped with a leakage detection pit or sump. This sump is located beneath the liner of each pond and is accessed by a 6" CPVC capped pipe along the bank of the pond. These pits were sampled by pumping each sump with a peristaltic pump. The samples were submitted to the CLP laboratory for TAL metals, Cyanide, and WAD eyanide. The analytical results are tabulated in Table 13 for process area ponds, and Table 14 for the southern process ponds. Results for all leakage pits contained elevated levels of Calcium, Sodium, and Potassium. All leakage pits with the exception of Pond G contained negligible amounts of cyanide. The leakage pit under pond G, however, contained 30,000 ug/L of cyanide. It is unclear if this cyanide is the remnants of a historic leak, or groundwater from the main leach pile impacting the water under the process pond. Samples were also field screened for nitrates and sulfates. The leakage pit nitrate and sulfate results are shown in Table 12. Sulfate results are very similar to the surface water results with levels over 200 mg/L. No appreciable pattern was noted in the nitrate results.

Process Area Investigation

Due to the nature of the cyanide heap leach process, many chemicals found in this type of process area can be hazardous. REAC personnel visually inspected all processing areas and noted all drums, mixing tanks, storage tanks, or other stored chemicals. Where possible, chemicals were identified by the labels on drums, bags, or containers. During this investigation, a RaeSystems MultiRaeTM multiple gas monitor was used to monitor the breathing space of the workers. The MultiRaeTM monitor was configured to monitor for oxygen, volatile organic compounds, hydrogen cyanide gas, ammonia gas, and explosive limit.

Three main tanks were noted outside of the process buildings. The details of each tank were as follows:

Tank T-1 - Approximately 5,000 gallon capacity. Insulated. Unknown quantity remaining in tank. White powder noted at discharge connection.

Tank T-2 - Approximately 5,000 gallon capacity. Non-insulated. Noted approximately 100 gallons of fluid/sludge remaining at bottom. Material at discharge nozzle had the consistency of petroleum jelly but the coloring of clear silicone.

Tank T-3 - Approximately 1,000 gallon capacity. Insulated. Unknown quantity remaining in tank. Unable to access contents.

Outside of what was assumed to be a water treatment building were four full 55 gallon drums. These drums were labeled by REAC as D-1, D-2, D-3, and D-4. The details of each were as follows:

Drum D-1 - 55 Gallon Blue Poly drum, full, labeled Amersep MP 3R 6KL-0650-RL 547-22-525. The MultiRaeTM monitor detected positive hits for ammonia gas and low oxygen from the contents of this drum. This does not imply that the vapors from the contents were indeed ammonia, as the MultiRaeTM device can read interferences as positive reactions. Amersep is listed as an organosulfur based metals precipitant.

Drum D-2-55 Gallon black metallic drum in good condition. Bung was open with a metering pump mounted in the open bung. The drum was full of unknown liquid.

Drum D-3 - 55 Gallon blue poly drum, no label, full of unknown liquid.

Drum D-4 - 55 Gallon blue poly drum, no label, full of unknown liquid.

To the north side of the process area was a pole barn type building with no protected sides. Indications from the debris were that it was the remnants of a laboratory or analysis area for the processing plant. In the pole barn was a drum labeled Methyl Ethyl Ketone. This drum was labeled by REAC as drum D-5. D-5 was a somewhat rusty 55 gallon metallic drum with a hose and valve installed in the bung. Approximately 30 to 40 gallons remained in the drum.

Water Treatment Building. Inside the water treatment building were the remnants of the water treatment equipment. This included approximately six open tanks with mixers, pallets of chemicals, 5 gallon buckets of unknown materials, empty drums, and one full drum labeled Hydrochloric Acid.

Paliets.

Pallet 1 contained approximately 15 bags (approximately 40 lbs/bag) of what was labeled as "Caustic Soda Beads"

Pallet 2 contained approximately 10 - 15 bags (approximately 50 lbs/bag) of what was labeled as "Sodium Metabisulfite"

Mixing Tanks.

Mixing Tank MT-1 - Open topped mixing tank approximately 100 gallon capacity. Contained what appeared to be a heavily hydrated caustic material such as sodium hydroxide. There was a coating of approximately 2 to 3 inches thick of the material at the bottom of the tank. pH 12. Most likely caustic soda, based on the material found on the nearby pallet.

Mixing Tank MT-2 - Open topped mixing tank approximately 100 gallon capacity. Empty.

Mixing Tank MT-3 - Open topped mixing tank approximately 100 gallon capacity. Contained a 3 to 4 inch thick layer of white powder, pH 7 possibly potassium sulfate.

Mixing Tank MT-4 - Open topped mixing tank approximately 300 gallon capacity. Contained approximately 2 inches of yellow liquid, pH 1. Most likely hydrochloric acid based on the drum of Hydrochloric Acid found in the building.

Mixing Tank MT-5 - Open topped mixing tank with lid approximately 100 gallon capacity. Contained a very small amount of dark liquid, pH 5

Drums

Empty drum - An empty drum labeled Hypersperse AF-150 was found on the ground.

Drum D-6 - Full 55 gallon black metallic drum labeled with the words Hydrochloric Acid 10 Be. MultiRae registered positive hits for low oxygen, cyanide gas, and furnes were observed exiting the bung. pH testing showed a pH of 1. It is believed that the drum was correctly labeled. Cyanide response may have been due to cross interference with vapors given off by hydrochloric acid.

Hazardous Waste Characterization Results. Samples were collected from D-1, D-2, D-3, D-4, D-5, D-6, MT-1, MT-3, MT-4, MT-5, T-1 and T-2 and analyzed using the HAZCAT protocol. The protocol used in the field was used to screen materials for obvious hazards and incompatibilities so that the OSC could determine the required disposal strategies. The HAZCAT protocol was not followed to the end, nor was it intended to be used to fully identify any compounds. The HAZCAT results are tabulated in Table 15.

Other Site Samples. Several locations were sampled and analyzed at the request of the ERT WAM and the OSC. These samples were submitted for TAL metals and cyanide analysis. The results of these analyses are provided in Table 16.

Heap Leach Pile Crust. A white precipitate crystalline crust was observed in the drainage pathway between the Heap Leach Pile and the southern process ponds. This precipitate seemed to be

indicative of a precipitate left after drainage waters had evaporated. This material contained 95,000 mg/kg of sodium. It appears that the crust is some type of sodium salt. During collection it was noted that the sample gained a reddish tint as it was taken. This is due to the red tinted sediments immediately below the crust. The result of 13,000 mg/kg of iron could account for the reddish tint.

Ingot Room Pit. In the center of the ingot room in the process area, there was a sump approximately three feet square by approximately three feet deep. It was of concern that this sump would have trapped processing chemicals or heavy metals. The sediment sample from this location contained high levels of iron, zinc, sodium, and aluminum. This analytical data was very similar to the sediment samples taken from the process ponds. An elevated level of 620 mg/kg of cyanide was also noted.

White Pile. A large pile of white material was stockpiled near the entrance to the facility. This material contained 380,000 mg/kg of calcium and is believed to be Calcium Carbonate used during the decommissioning of the site.

Photo Documentation. Site conditions and activities were documented by photographs taken during the field activities. A Microsoft® PowerPoint® presentation was created to organize the site photographs. A printout of the handout generated by PowerPoint® is attached as Appendix I. Included with this report is a Compact Disc of the PowerPoint® presentation and all site photos including historical geo-referenced photographs of the site.

D. REFERENCES

SCDHEC 2004. Site Investigation. Barite Hill/Nevada Goldfields. SCD 987 597 903. Columbia, SC. 1-27

EPA. 1999. Rapid Bioassessment Protocols for Use In Streams and Wadeable Rivers, Second Edition, EPA/841/B-99/002, Office of Wetlands, Oceans and Watersheds

Table 1. Stream Assessment Data Summary
Barite Hill Gold Mine
McCormick County, SC
June 2007

Sample Location	Habitat Assessment	Macrobenthos Average Abundance	Macrobenthos Diversity (# of Species)
BH247-1	130	_3	4
BH247-3	147	11	1
BH247-4	142	1	1
BH247-6	142	0	0
BH247-7	149	1.3	6
BH247-8	149	0	0
BH247-17	119	_ 1	2
BH247-18	133	2	6
BH247-19	132	2	4
BH247-21	128	1	4
BH247-22	136	2	2
BH247-25	123	2	5
BH247-26	139	1.3	7
BH247-28	129	2.4	5 _

Table 2. Water Quality Measurements
Barite Hill Gold Mine
McCormick County, SC
June 2007

Sample	D (1	pН	Conductivity	Dissolved	Dissolved Oxygen	Turbidity	Temp
Location	Date	(SU)	(mS/cm)	Oxygen (mg/L)	(%)	(NTU)	(°C)
BH247-1	3/27/07	7.00	0.140	7.7	35.7	2.2	14.9
BH247-2	3/27/07	6.04	na	па	35.7	1.8	14.9
BH247-3	3/27/07	4.50	0.587	6.1	60.0	44.7	15.1
BH247-4	3/27/07	2.50	3.904	5.4	55.7	3.1	15.6
Seep Water	3/27/07	2.29	4.813	7.6	79.0	8.3	15.7
BH247-5	3/27/07	па	па	na	na	na_	na
BH247-6	3/27/07	4.23	1.514	5.2	55.5	14.1	17.5
BH247-7	3/27/07	6.70	2.300	6.7	72.5	1.1	16.1
BH247-8	3/27/07	2.80	2.175	8.13	88.5	1201	18.5
BH247-9	3/27/07	2.76	2.409	8.8	96.1	4.8	1 <u>8</u> .5
BH247-10	3/27/07	2.85	1.863	6.9	71.0	0.1	15.7
BH247-11	3/27/07	2.95	1.393	5.4	56.7	0.2	17.3
BH247-12	3/27/07	3.00	1.275	6.1	77.0	0.6	22.0
BH247-13	3/27/07	3.50	8.000	7.4	84.0	1,5	19.4
BH247-14	3/27/07	3.90	0.664	6.9	54.8	0.7	18.2
BH247-15	3/27/07	3.96	0.607	8.4	93.9	1.5	20.4
BH247-16	3/27/07	4.15	0.543	7.8	89.8	2,2	21.8
BH247-17	3/27/07	4.04	0.545	8.4	96.9	0.9	21.7
BH247-18	3/27/07	6.33	0.163	8.0	86.8	0.6	20.0
BH247-19	3/27/07	6.22	0.280	7.7	85.6	0.9	23.4
BH247-20	3/28/07	7.37	0.289	7.2	82.0	0.6	21.1
BH247-21	3/28/07	6.88	0.734	5.6	64.1	7.7	20.9
BH247-22	3/28/07	7.33	0.222	na	na	0.1	16.4
BH247-23	3/28/07	7.21	0.221	na	na	0.9	18.1
BH247-24	3/28/07	7.30	0.231	na	па	0.9	17.7
BH247-25	3/28/07	<u>7.1</u> 4	0.365	na	na	44.9	23.1
BH247-26	3/28/07	6.56	0.388	na	na_	3,7	19.2
BH247-27	3/28/07	6.96	0.370	na	na	7.8	22.7
BH247-28	3/28/07	6.69	0.827	na	na	6.0	17.8
BH247-29	3/28/07	6.87	1.119	na	na	22.1	21.0

SU - standard units

mS/cm - millisiemens per centimeter

mg/L - milligrams per liter

% - percent

NTU - nephelometric turbidity units

°C - degrees centigrade

na - not available

Table 3. Stream Water Sample Nitrate and Sulfate Results

Barite Hill Gold Mine

McCormick County, SC

June 2007

Sample Location	Nitrate mg/L	Sulfate mg/L
BH247-1	0	< 50
BH247-3	0	> 200
BH247-5	na *	> 200
BH247-6	0	125
BH247-7	na	< 50
BH247-8	na *	> 200
BH247-13	0.1	> 200
BH247-17	0.15	> 200
BH247-18	0	< 50
BH247-19	0	70
BH247-20	0.07	65
BH247-21	0.07	80
BH247-22	0.05	75
BH247-25	0.07	90
BH247-26	0.1	80
BH247-27	0.05	75
BH247-28	0	< 50
BH247-29	1.1	> 200

^{*} Sample turned green during test. Test inconclusive. mg/L - milligrams per Liter

Table 8. Process Pond Sediment Sample Metals and Cyanide Results Barite Hill Gold Mine McCormick County, SC June 2007

	Sample Location	Pond	Α	Pond	В	Pond C	Pone	! D	Pond	IE	Pond	F	Pond	G	Pond	H	Pone	
		Result	Qual.	Result	Qual.	Result Qu	al. Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.
	Mercury	4. <u>0</u>	J,Ö	1.7	J,O	1.6 J,O	2.	2 J,Ò	0.15	U,J,O	0.63	J,O	0.42	J,Ö	0.76	J,O		U,J,O
	% Solids	51.0		8.6		44.0	48.)	57.0		61,01		62.0		56.0		65.0	
	Aluminum	7,100.0	J,O	14,000.0	J,O	9,000.0 J,O	5,500.	J,O	10,000.0	O,L	6,100.0	ĵ'O	10,000.0	J,O	9,300.0	J,O	18,000.0	
	Antimony	4.3	O'Y'O	10.0	i.	4.1 U,J,	O 5.	7 U,J,O	11.0	U,J,O	9.8	U,J,Q	1.7	U,J,O	5.0	U,J,O	9.2	U,J,O
	Arsenic	470.0		53.0		200.0	110.		2.9		210.0		77.0		300.0		110.0	
	Barium	4,400.0		380.0		2,500.0	3,700.		44.0		2,600.0		5,000.0		6,500.0		2,200.0	
	Beryllium	0.15	0,5,0	0.23	O,Ľ,U	0.2 U,J,	0 0.1	3 U,J,O	0.4	N'1'O	0.2	U,J,O	0.29	Ů,J,Q	0.24	U,J,O	0.47	U,J,O
	Cadmium	8.2		2,5	Ċ	14.0	1.	7	0.3	J,O	1,5		0.42	J,O	2.4		37.0	
	Calcium	170,000.0		11,000.0		160,000.0	270,000.0)	420.0	J,O	130,000.0		9,800.0		12,000.0		65,000.0	
	Chromium	120.0		55.0		70.0	19.)	55.0	1	35.0		19,0		20.0		18.0	
	Cobalt	13.0		660.0		9.8 J,O	8,	I J.O	2.9	J,O	15.0		7.3	1,0	22.0		21,0	
ш.	Copper	52,000.0	J,O	37,000.0	J,O	78,000.0 J,O	16,000.0	0,0	130.0	J,O	7,300.0	J,Ö	3,100.0	J,O	10,000.0	J,O	2,000.0	J,O
占	Iron	31,000,0		37,000.0		32,000.0	21,000.0)	56,000.0		28,000.0		32,000.0		46,000.0		35,000.0	
₹	Lead	150.0		21.0		66.0	130.0		19.0		110.0		150.0		250.0		98.0	
₹	Magnesium	620.0	J.O	550.0	J.O	380.0 J,O	380.0),(O	230.0	J,O	230.0	3,0	1,200.0		900.0		1,000.0	
	Manganese	160.0		260.0		230.0	94.0		460,0		54.0		210.0		150.0		450.0	
	Nickel	55,0		130.0		230.0	290.0)	8,5		12.0		10.0		26.0		9.4	
	Potassium	380.0	ĵ'O 	940.0	٦̈'O	110.0 J,O	500.0) U	170.0	J,O	170.0	J,O	380.0	'n	170.0	J,O	570.0	
	Selenium	1,000.0		5,900.0		1,500.0	210.0)	1.6	J,O	470.0		89.0		330.0		8.2	
	Silver	260.0		1,000.0		180.0	270.		1.7	U	96.0		29.0		52.0		1.5	Ü
	Sodium	3,000.0		8,100.0		2,300.0	300.	O,L,O	720.0	J,O	1,700.0		1,500.0		1,500.0		130.0	O,L,U
1	Thailium	4.9	C	29.0	υ	5.7 U	5.	υ	4.4	U	4.1	C	4.0	C	4.5	U	3.9	U
	Vanadium	44.0		65.0		68.0	24.0		160.0		36.0		48.0		50.0		49.0	
	Zinc	300.0		190.0	J,Ö	720.0 J,O	280.0	1,0	90.0	J,O	110.0	J.O _	56.0	J,O	240.0		440.0	J.O
	Cyanide	2,200.0		2.2	U,J,O	1,700.0 J,O) J,O	0.66	U,J,O	86.0	J.O_	210.0	J,O	200.0			U,J,O
L	WAD Cyanide	230.0	1,0	1.1	U,J,Q	230.0 J,O	6.0	J,O	4,3	U,J,O	7.3	J,Ō	110.0	J,O	59.0	J,O	0.23	U,J,O

All results are given in milligrams per kilogram (mg/kg) dry

U - Under MDL

MDL - Minimum Detection Limit

J - Estimated

O - Other Qualifier, See Appendix B For Full Data Report and Definition of Qualifiers.

Qual - Qualifier na - Not Available

Table 9. Process Pond Sediment Depth and Volume Estimates
Barite Hill Gold Mine
McCormick County, SC
June 2007

Location	Average Sediment Depth (ft)	Pond Surface Area (ft2)	Estimated Sediment Volume (yd3)
Pond A	1.66	36,700	2,251
Pond B	0.16	18,200	106
Pond C	0.82	16,600	502
Pond D	0.04	_ 8,300_	13
Pond F	0.7	100,000	2,593
Pond G	3.38	26,900	3,363
Pond H	1.95	22,200	1,603

ft - Feet

ft2 - Square feet

yd3 - Cubic yards

Table 10. Process Pond Free Water Volume Calculations Barite Hill Gold Mine McCormick County, SC June 2007

Table 10a. Individual Free Volume Calculation

Pond	Surface Area	Minimum Bank Elevation	Free Volume
	Ft2	Ft above Waterline	Gal x 1000
Pond A	36700	0.85	233
Pond B	18200	0.98	133
Pond C	16600	0.93	115
Pond D	8300	1.16	72
Pond E	26000	12.23	2378
Pond F	100000	0.49	_367
Pond G	26900	0.11	22
Pond H	22200	0	0

Ft - Feet

Ft2 - Square Feet

Gal - Gallon

Table 10c. Free Volume With Ponds Acting as a Combined System

Ponds F, G and H

Pond	Surface Area	Minimum Bank Elevation	Free Volume
	Ft2	Ft above Waterline	Gal x 1000
Pond F	100000	0.22	165
Pond G	26900	0.22	44
Pond H	22200	0.22	_37
TOTAL	149100		245

Ft - Feet

Ft2 - Square Feet

Gal - Gallon

Note:For Ponds F thru H, any rainfall would be presently released at a breach in pond H at location 111A. Should this breach be repaired, the next logical breakthrough would be at location 105 in Pond G. This would not cause total failure. The next location that would lead to complete failure is location 106 in pond G. This is the most southern point of pond G. These calculations are based on the elevation of location 106.

Table10b. Free Volume With Ponds Acting as a Combined System

Ponds A, B, C, D and E

Pond	Surface Area	Minimum Bank Elevation	Free Volume
_	Ft2	Ft above Waterline	Gal x 1000
Pond A	36700	0.85	233
Pond B	18200	0.85	116
Pond C	16600	0.85	106 _
Pond D	8300	0.85	53
Pond E	ond E 26000		2297
TOTAL	105800		2804

Ft - Feet

Ft2 - Square Feet

Gal - Gallon

Note: For Ponds A thru E, release would be at the lowest point, survey point 1 in Pond A. Therefore, this calculation shows the free volume available at the minimum elevation.

Table 11. Pond Response to 100 and 250 Year Storms Barite Hill Gold Mine McCormick County, SC June 2007

Table 11a. Process Area Process Ponds Acting as a Combined System

						Remaining	Volume After
Pond	Area	Minimum Bank Elevation			250 Year Storm	100 Yr Storm	250 Year Storm
i .	Ft2	Ft above Waterline	Gal x 1000	Gal x 1000	Gal x 1000	Gal x 1000	Gal x 1000
Pond A	36700	0.85	233	371	837	-137	-604
Pond B	18200	0.85	116	184	415	-68	-299
Pond C	16600	0.85	106	168	379	-62	-273
Pond D	8300	0.85	53	84	189	-31	-137
Pond E	26000	11.81	2297	263	593	2034	1704
TOTAL	105800		2804	1068	2414	1736	390_

Ft - Feet

Ft2 - Square Feet

Gal - Gallon

Yr - Year

Note: Calculations based on 100 year 24 hour period rainfall of 16.2

inches, and 250 year 24 hour period rainfall of 36.6 inches.

Table 11b. Southern Process Ponds Acting as a Combined System

		Minimum Bank	Free	100 Year	250 Year	Remaining	Volume After
Pond	Агеа	Elevation	Volume	Storm	Storm	100 Yr	250 Year
Foria		Eleastich	Volume	Storini	Stolla	Storm	Storm
['	Ft2	Ft above Waterline	Gal x 1000				
Pond F	100000	0.22	165	1010	2281	-845	-2117
Pond G	26900	0.22	44	272	614	-227	-569
Pond H	22200	0.22	37	224	506	-188	-470
TOTAL	149100		245	1506	3402	-1260	-3156

Ft - Feet

Ft2 - Square Feet

Gal - Gallon

Yr - Year

Note: Calculations based on 100 year 24 hour period rainfall of 16.2 inches, and 250 year 24 hour period rainfall of 36.6 inches.

Table 12. Process Pond Water Sample Nitrate and Sulfate Results
Barite Hill Gold Mine
McCormick County, SC
June 2007

Sample Location	Nitrate mg/L	Sulfate mg/L
Pond A Sw	0	> 200
Pond A L	0.8	> 200
Pond B SW	0	> 200
Pond B L	> 10	> 200
Pond C SW	0	> 200
Pond C L	0.25	> 200
Pond D SW	0	85
Pond D L	0.32	> 200
Pond E SW	0	> 200
Pond F SW	4.6	> 200
Pond F L	_ 0	> 200
Pond G SW	. 5.4	> 200
Pond G L		> 200
Pond H SW	3.2	> 200
Pond H L	> 10	> 200
Pond I SW	0	80

U - Results above maximum detection limit of 10 mg/L

U1 - Results above maximum detection limit of 200 mg/L

mg/L - milligrams per Liter

SW - Surface Water

L - Leakage Detection Pit

Table 14. Southern Process Pond Leakage Detection Pit Water Sample Analytical Results
Barite Hill Gold Mine
McCormick County, SC
June 2007

	Sample Location	FL		GL		H	-
		Result	Qual.	Result	Qual.	Result	Qual.
	Mercury	0.2		0.2	U	0.083	Ú,J,O
	Aluminum	51.0	U,J,O	240.0		76.0	U,J,O
	Antimony	60.0		60.0	n	12.0	U,J,O
	Arsenic		R,O	30.0		24.0	
I	Barium	25.0		63.0	J,O	16.0	
l	Beryllium _	5.0	5	5.0	U	5.0	U
	Cadmium	5.0	<u>د</u>		O,L,U	29.0	
l	Calcium	110,000.0		40,000.0		160,000.0	
l	Chromium		U,J,O	10.0			U,J,O
l	Cobalt	350.0		190.0		270.0	
lس	Copper	620.0		160.0		<u>1,</u> 400.0	
ANALYTE	lron	160.0		13,000.0			U,J,O
뉱	Lead		U,J,O		U,J,O		U,J,O
ΙŽ	Magnesium	4,000.0		4,600.0		6,600.0	
~	Manganese	110.0			U,J,Ō	360.0	
l	Nickel	19.0		13.0		89.0	
l	Potassium	53,000.0		52,000.0		45,000.0	
l	Selenium	130.0		750.0		2,700.0	
	Silver		J,O	10.0		10.0	
	Sodium	1,500,000.0		1,600,000.0		1,300,000.0	
	Thallium	25.0		25.0		25.0	
1	Vanadium		J,O	19.0		50.0	
	Zinc		U,J,O		U,J,O	340.0	
	Cyanide	53.0		30,000.0			U,J,O
	WAD Cyanide	10.0		75.0		10.0	Ú

All results are given in microgram per liter (ug/L)

U - Under MDL

MDL - Minimum Detection Limit

J - Estimated

O - Other Qualifier, See Appendix B For Full Data Report and Definition of Qualifiers.

Qual - Qualifier

WAD - Weak acid dissociable

Table 15. Hazardous Waste Categorization (HAZCAT) Results Barite Hill Gold Mine McCormick County, SC June 2007

			oration est	Oxi	dizer/	Acid Tes		ater lity Test							Other Tests	
Sample ID	PH	Evap	Precipitate	Oxidizer	Acid Test	Effervescence off	Soluble	Floats/Sinks	Char Test - Vapor Ignition	Cyanide Test (Inorganic)	lodine Crystal Test	Flammable	Combustible	Copper Wire Test	Notes:	Travel IR
D-1	13	pos	white	neg			pos		neg	neg	neg				Multirae responded to ammonia vapors and low oxygen when sampling drum headspace. Drum labeled as Amersep MP 3R, 6KL-0650-RL, 547-22-525	Neg.
<u></u>	4.0														Black drum with installed metering	
D-2 D-3	4	neg	white	neg	neg	_	+	Ci-tra		neg					pump	
D-4	4	neg neg		neg neg	neg neg		+	Sinks Sinks		neg		neg	_			
D-5	5	neg		neg	ned		+	SHIKS		neg		neg neg	neg	neg	Drum Labeled MEK	na
D-6	Ĭ	лед		neg								neg	1100	neg	Drum Labeled Hydrochloric Acid 20 Be	110
MT-1	12	neg		neg	pos	neg	† 					H			Possible Carbonate	
MT-3	7	neg				 	†					Н	_	-	t description descriptions and any	Possible Potassium Sulfate
MT-4	1	neg		一十			†								Possibly Hydrochloric Acid	
MT-5	5	neg														
T-1	11	neg		neg	pos	neg									Possible Carbonate	
T-2	7	neg		neg	neg											

neg - Negative pos - Positive

Table 16. Other Sample Analytical Results
Barite Hill Gold Mine
McCormick County, SC
June 2007

	Sample	Heap Leach	Pile Crust	Ingot Ro	om Pit	White	Pile
	L. Ver Char	Result	Qual.	Result	Qual.	Result	Qual.
	Mercury	0.13	U,J,O	3.6	J,O	0.11	U,J,O
	% Solids	79.0		74.0		90.0	
	Aluminum	3,200.0		8,100.0		4,700.0	J,O
	Antimony	7.6	U,J,O	41.0	Ü,J,O	6.6	U,J,O
1	Arsenic	29.0		24.0		1.4	
'	Barium	67.0		1,200.0		62.0	
	Beryllium		O,L,U		U,J,O	0.95	
	Cadmium	0.11	R,O	6.2		0.08	J,O
	Calcium	3,500.0		31,000.0		380,000.0	
	Chromium	1.5		370.0		3.4	
	Cobalt	12.0			J,O	0.19	
12	Copper	260.0		6,300.0			J,O
ANALYTE	Iron	13,000.0		210,000.0		1,000.0	
I₹	Lead	17.0		160.0		2.8	
₹	Magnesium	2,200. <u>0</u>		1,100.0		350.0	J,O
	Manganese	100.0		1,200.0		9.4	
	Nickel		J,O	170.0		2.4	J,O
	Potassium	1,500.0		7,600.0		63.0	
ļ	Selenium	7.2		360.0		3.9	
	Silver	1.3	U	120.0		1.1	
	Sodium	95,000.0		20,000.0			U,J,O
	Thallium	3.2			U,O	2.8	
	Vanadium	13.0		44.0		6.4	
	Zinc	100.0		16,000.0	J,O		U,J,O
	Cyanide	1.4	U,J,O	620.0		0.67	U,J,O_
	WAD Cyanide	na	na	280.0	J,O	па	па

All results are given in milligrams per kilogram (mg/kg) dry

U - Under MDL

MDL - Minimum Detection Limit

J - Estimated

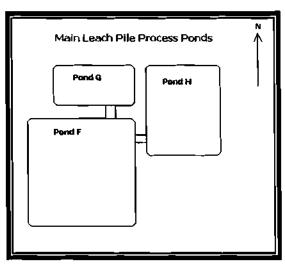
O - Other Qualifier, See Appendix B Full Data Report and Definition of Qualifiers.

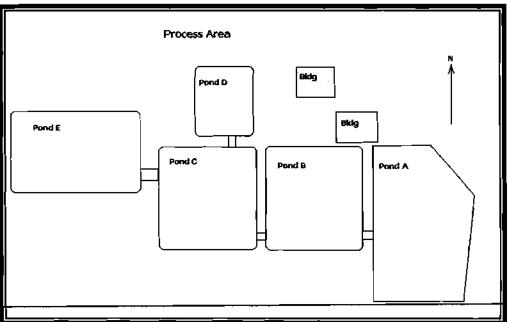
Qual - Qualifier

na - Not Available

Table 17. Process Pond Labels and pH Results
Barite Hill Gold Mine
McCormick County, SC
June 2007

Pond	pH
A	9.30
B	9.10
С	9.08
D	9.20
E	8.48
F	7.20
G _	8. <u>10</u>
H	6.85
	7.95

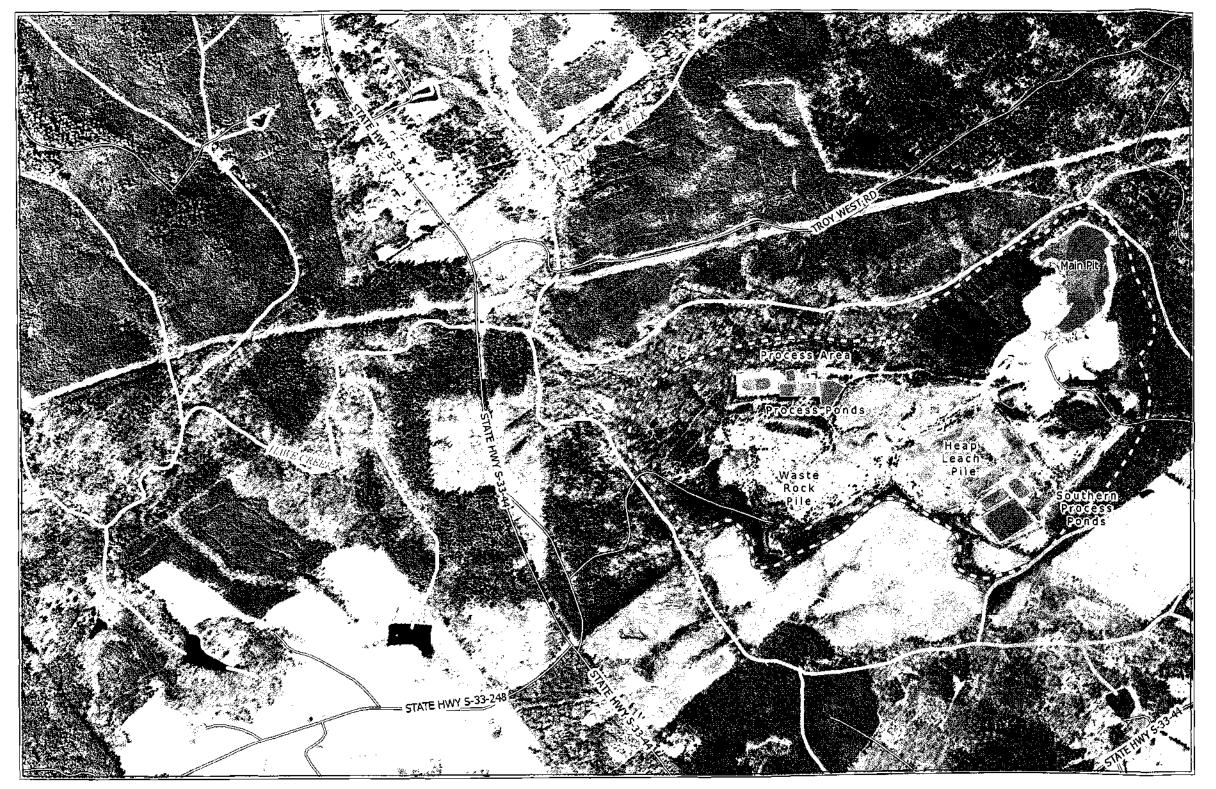


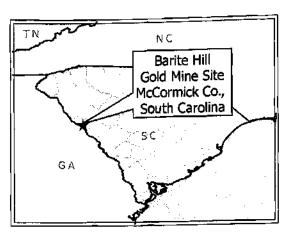


Notes:

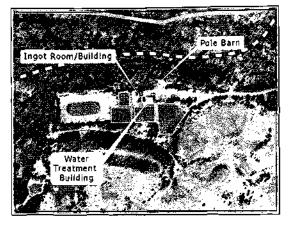
Pond I was located west of the main parking area. It can be described as a shallow depression with a large quantity of downed trees that collects pooled water.

Pond locations and sizes are given for reference only. Figures are not to scale.

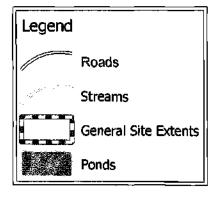




Process Area







Map created using South Carolina Department of Natural Resources (SCDNR) provided 1 meter orthomagery (2006) and site survey GPS data. GPS collected in Lat., Lon., Decimal Degrees, WGS84.

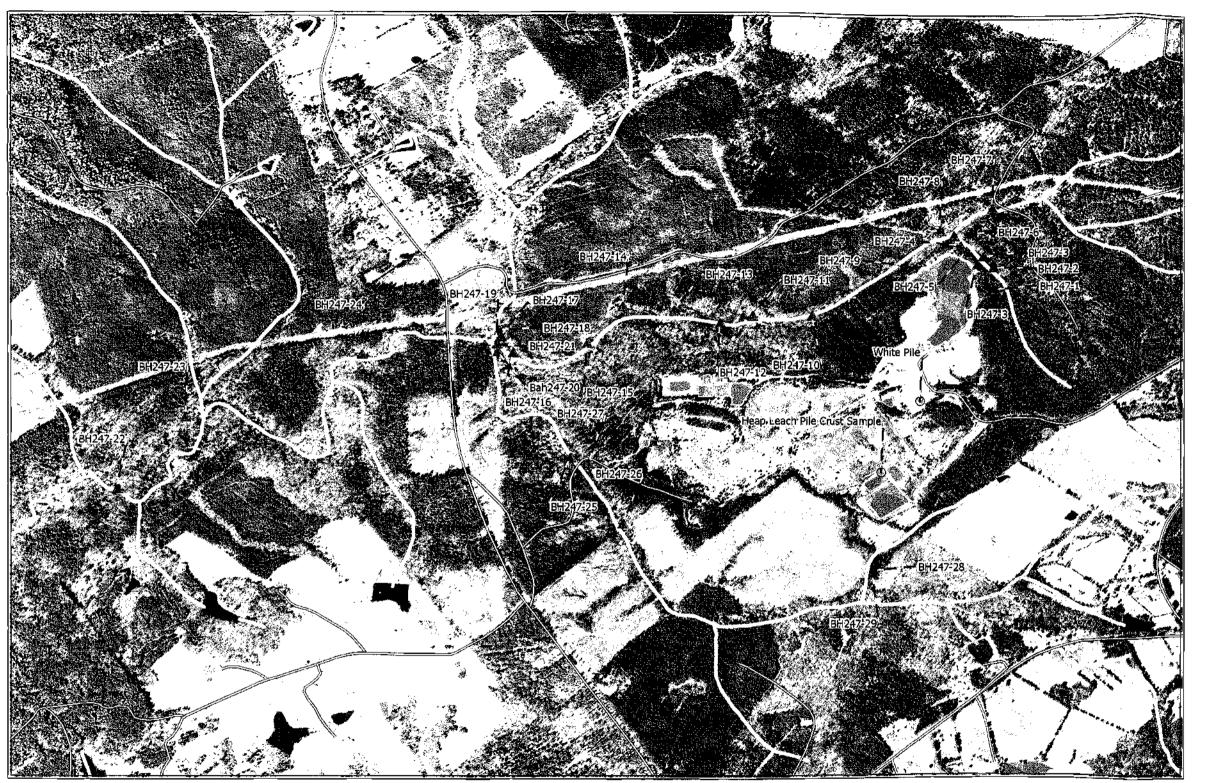
Map Creation Date: 14June2007

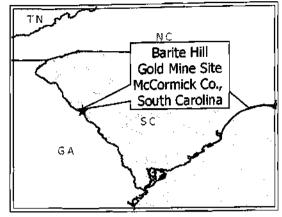
Coordinate system: UTM Zone: 17N Datum: NAD83 Units: Meters 1,000 0 1,000 Fee

U.S. EPA Environmental Response Team Response Engineering and Analytical Contract EP-C-04-032 W.A.# 0-247

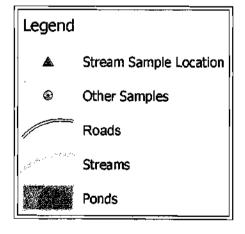
Figure 1
Site Location Map
Barite Hill Mine Site
McCormick Co., SC

Data: g:\arcviewprojects\reac4\00-247 MXD file: g:\arckifoprojects\reac4\EAC00247_BariteHill\247_sitelocationmap_firev003 Revision Number: 003









Map created using South Carolina Department of Natural Resources (SCDNR) provided 1 meter orthoimagery (2006) and site survey GPS data. GPS collected in Lat., Lon., Decimal Degrees, WGS84.

Map Creation Date: 14June2007

Coordinate system: UTM Zone: 17N Datum: NAD83 Units: Meters 1,000 0 1,000 Fe

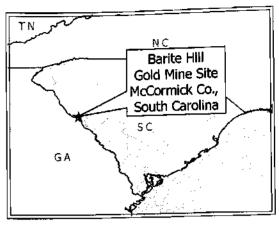
U.S. EPA Environmental Response Team Response Engineering and Analytical Contract EP-C-04-032 W.A.# 0-247

Figure 2
Sample Location Map
Barite Hill
Gold Mine Site
McCormick Co., SC

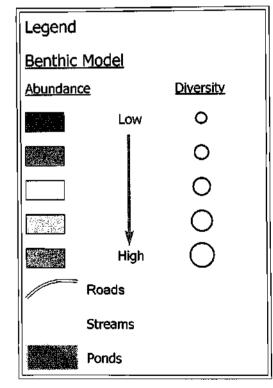
Data: g:\arcviewprojects\reac4\00-247
MXD file: g:\arcinfoprojects\reac4\EAC00247_BariteHill\247_samplemap_f2rev003
Revision Number: 003

25





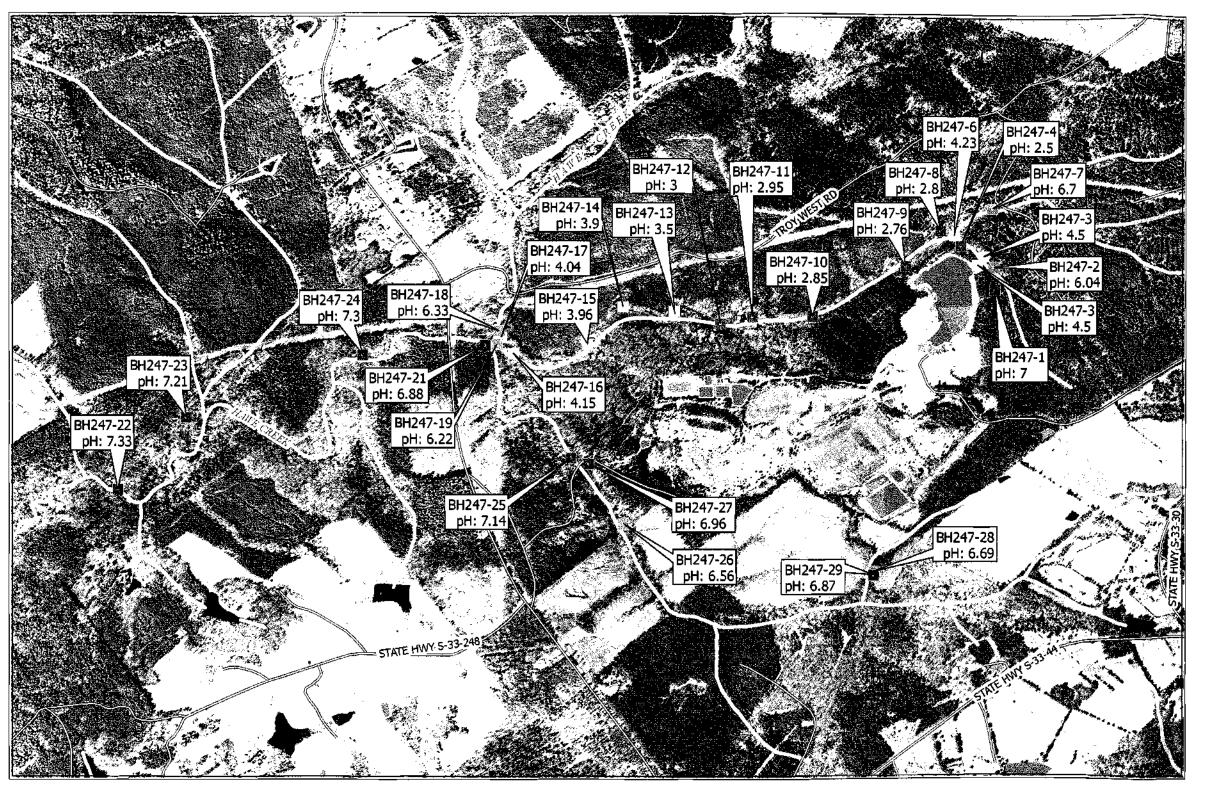




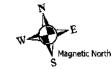
Coordinate system: UTM Zone: 17N Datum: NAD83 Units: Meters

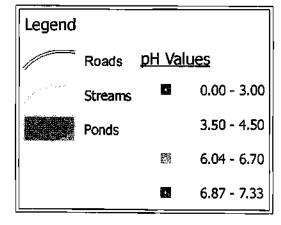
U.S. EPA Environmental Response Team Response Engineering and Analytical Contract EP-C-04-032 W.A.# 0-247

Figure 3 Benthic Diversity Map Barite Hill Gold Mine Site McCormick Co., SC



Barlte Hill Gold Mine Site McCormick Co., South Carolina GΑ





Map created using South Carolina Department of Natural Resources (SCDNR) provided 1 meter orthoimagery (2006) and site survey GPS data. GPS collected in Lat., Lon., Decimal Degrees, WGS84.

Map Creation Date: 14June2007

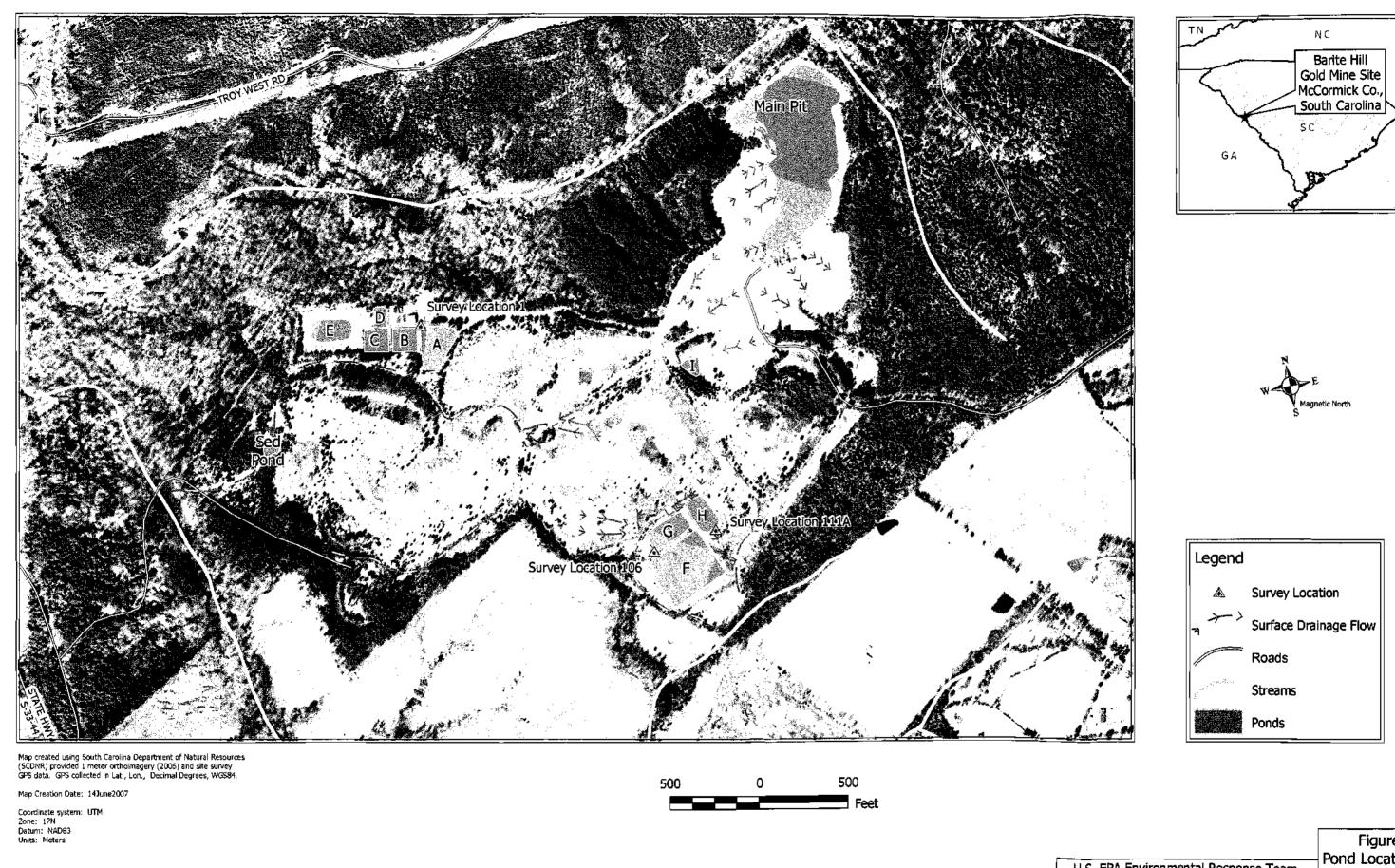
Coordinate system: UTM Zone: 17N Datum: NAD83 Units: Meters

1,000 1,000

> U.S. EPA Environmental Response Team Response Engineering and Analytical Contract EP-C-04-032 W.A.# 0-247

Figure 4 Stream Sample Locations Showing pH Values Barite Hill Gold Mine Site McCormick Co., SC

Data: g:\arcviewprojects\reac4\00-247 MXD file: g:\arcinfoprojects\reac4\EAC00247_BariteHill\247_streamphlocations_f4rev003 Revision Number: 003



Data: g:\arcviewprojects\reac4\00-247 MXD file: g:\arcviewprojects\reac4\EAC00247_BariteHill\247_pondlocations_f5rev003 Revision Number: 003

U.S. EPA Environmental Response Team Response Engineering and Analytical Contract EP-C-04-032 W.A.# 0-247

Figure 5

Pond Location Map
Barite Hill
Gold Mine Site
McCormick Co., SC

APPENDIX A
STREAM DATA SHEETS
BARITE HILL GOLD MINE
TRIP REPORT
JUNE 2007

FINAL DRAFT

Barite Hill/Nevada Goldfields SCD 987 597 903 Page 19

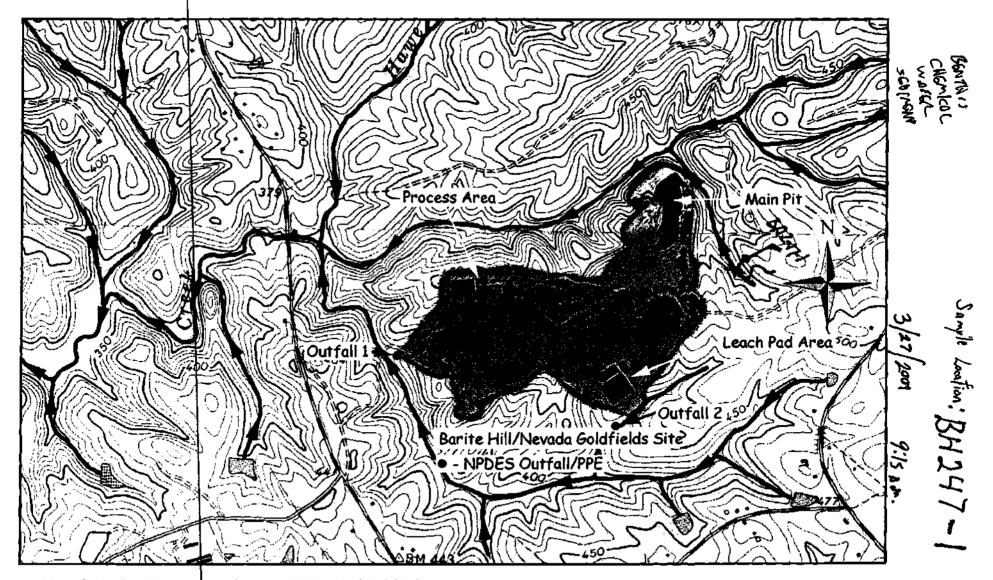


Figure 2 - Surface Water Pathway for Barite Hill/Nevada Goldfields Site

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET (FRONT)

			BSH	. BH 147H	
	STREAM NAME INNAM	ED	LOCATION FAST /NAS		ALLY SITE STEEL
615	STATION#/_RI	VERMILE	STREAM CLASS		110 3/16 TEL
No the ma	LAT LO	NG	RIVER BASIN] @ <i>``</i> ```
Nie Training	STORET#			angiblife /REAC]
No bis with the force of the fo	INVESTIGATORS .	HUNGY MINIG	u, s. Prenchicks	C. GUSSMAN	_
		C. GUESINARY	DATE 1/21/201	REASON FOR SURVEY STALAR SAMET	.,
	l <u> </u>	(.000-		MENITERING / GIOTA MILLION	1 .
			War 184		7.7.0
	WEATHER CONDITIONS	Now	Past 24 hours	Has there been a heavy rain in the last 7 days? Yes No	
	SUNNY B	nin 🔾	(heavy rain) 🖸 (steady rain) 🖸	Air Temperature 25 °C (Estima76)	
	Yaes Je		s (intermittens) lond cover	Other	
	Contro de	4 cl	ear/sunay 13		_
	SITE LOCATION/MAP	Draw a map of the si	te and indicate the areas sa	mpled (or attack a photograph)	1
		·		8H247-1	1
]			247-1	
	}			/ '	
-	}			. /	
	}	اد	Allan MARIA FROM	\searrow 1	
		\ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		49.	-
	NOTE! BHIZHT-2	ن ا	アル	1. 1	•
	CHEMICAL ONLY,			1 1 1	
	Noted Location		1		
	ON MAP AT		(<i>f</i>) \	
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			76ma 14 Turbulay 1 0.0. 35	t <u>.</u> †	1
			Turbuly 1	. Y	1
			6. d. 35.	69,	_
	STREAM				=
	CHARACTERIZATION	Sueam Subsystem Perennial 9 ln	tennittent 🔾 Tidal	Stream Type D Coldwater Warmwater	
	Mu atta	Stream Origin ,	2 Spring-fed	Catchment Areakm²	·
	* shillow holer may	Non-glacial montar Swamp and bog	e Mixture of origins Other		1
	4 12 / IN 9" PT 1	II —			Ι,

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET (BACK)

WATERSI FEATURE		Predomi G Forest G Field/F G Agricu G Reside	ıltural 🔾 Other	cial	Local Watershed NPS Pollution No evidence Some potential sources Obvious sources Local Watershed Erosion None Moderate Heavy				
RIPARIAN VEGETAT (18 meter b	ION buffer)		the dominant type and in the dominant type and in the dominant type and it is the domi		PLICH PENE * BEC				
INSTREAL FEATURE		Estimate Samplia Area in Estimate Surface (at that	ed Stream Depth O.1 Velocitym/ weg) SLOW	m² m² km² m ·	Canolby Cover Partly open Partly High Water Mark Proportion of Reach Re Marphology Types Prool % Channelized DYes Dam Present Clyes	shaded © Shaded			
LARGE WOODY LWD DEBRIS Deast			of LWDm		reach area).				
AQUATIC VEGETAT		Indicate the dominant type and record the dominant species present Rooted emergent Rooted submergent Rooted floating Free floating O Free floating dominant species present O Attached Algae Portion of the reach with aquatic vegetation O %							
WATER	UALITY	Temper Specific Dissolve pH	rature 14.2°C Conductance 0.14 and of Oxygen 7.1 mg/L	e fr	Water Odors Normal/None © Sewa Petroleum	Chemical Other Globs G Flecks			
	SEDIMENT/ SUBSTRATE			Petroleum None	Looking at stones which are the undersides blace	O Paper fiber Sand Other Poller Sand hare not deeply embedded, it in color?			
INC		STRATE (idd up to 1	COMPONENTS		ORGANIC SUBSTRATE C (does not necessarily add				
Substrate Type	Diamet	er	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area			
Bedrock			30	Detritus	sticks, wood, coarse plant materials (CPOM)	A. 1. 1			
Boulder	> 256 mm (10")	<u></u>	<u> </u>		(3)	A-MIMPE			
Cobble	64-256 mm (2.5		20	Muck-Mud	black, very fine organic (FPOM)	William 1/A			
Gravel	2-64 mm (0.1°-2		· · · · · · · · · · · · · · · · · · ·	ļ <u>-</u>		ATTURE N/A			
Sand	0.06-2mm (gritt		10	Mari	grey, shell fragments	Maria N/A			
Silt	0.004-0.06 mm			ļ	Ţ	17/4			

A-6 Appendix A-1: Habitat Assessment and Physicochemical Characterization Field Data Sheets - Form 1

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (FRONT)

[STREAMNAME BH 247	LOCATION BH 247-
- [STATION#RIVERMILE	STREAM CLASS
151	LATLONG	RIVER BASIN
351	STORET #	AGENCY CAR PROLIMING EUIARDC
	INVESTIGATORS R. HENRY / M. HIG	
	FORM COMPLETED BY Ches Guston	DATE 1/21/17 TIME 1:00 AM PM REASON FOR SURVEY / BI IMMITERING

	Habitat		Condition	Category		
, I	Parameter	Optimal	Suboptimal	Marginal	Poor	
	1. Epifausal Substrate/ Available Cover	Greater than 50% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).	30-50% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).	desirable; substrate frequently disturbed or removed.	Less than 10% stable habitat; lack of habitat is obvious; substrate unstable or lacking.	
reach	SCORE	20 19 18 17 16	15 14 13 12 11	10 9 (8) 7 6	5 4 3 2 1 0	
Parameters to be evaluated in sampling re	2. Poel Substrate Characterization	Mixture of substrate materials, with gravel and firm sand prevalent, root mats and submerged vegetation common.	Mixture of soft sand, mud, or clay; mud may be dominant; some root mats and submerged vegetation present.	All mud or clay or sand bottom; little or no root mat; no submerged vegetation.	Hard-pan clay or bedrock no root mat or vegetation	
	SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 (6)	5 4 3 2 1 0	
	3. Pool Variability	Even mix of large- shallow, large-deep, small-shallow, small-deep pools present.	Majority of pools large- deep; very few shallow.	Shallow pools much more prevalent than deep pools.	Majority of pools small- shallow or pools absent,	
l se	SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	(5) 4 3 2 1 0	
Pare	4. Sediment Deposition	Little or no enlargement of islands or point bars and less than <20% of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 20-50% of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel, sand or fine sediment on old and new bars; 50-80% of the bottom affected, sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; more than 80% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.	
[SCORE	20 (19) 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0	
	5. Champel Flow Status	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.	Water fills >75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.	
l	SCORE	20 19 18 17 16	35 14 13 12 11	10 9 8 /7) 5	5 4 3 2 1 0	

45

ATT ON

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (BACK)

	Habitat		Condition	Category	Condition Category								
ı	Parameter	Optimal	_ Suboptimal _	Marginal	Poor								
	6. Channel Alteration	Channelization or dredging absent or minimal; stream with normal pattern.	Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e., dredging, (greater than past 20 yr) may be present, but recent channelization is not present.	Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.	Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely.								
	SCORE	2 19 18 17 16	15, 14, 13, 12, 11,	10 9 8 7 6	5 4 3 2 1 0								
sampling reach	7. Channel Simuosity	The bends in the stream increase the stream length 3 to 4 times longer than if it was in a straight line. (Note - channel braiding is considered normal in coastal plains and other low-lying areas. This parameter is not easily rated in these areas.)	The beads in the stream increase the stream length I to 2 times longer than if it was in a straight line.	The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.	Channel straight; waterway has been channelized for a long distance.								
	SCORE	20 19 18 17 16	15 14 13 12 (11)	10 9 8 7 6	5 4 3 2 1 0								
be evaluated broader than s	2. Bank Stability (score each bank)	Banks stable; evidence of exosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.	Moderately stable; infrequent, small areas of crosion mostly healed over. 5-30% of bank in reach has areas of crosion.	Moderately unstable; 30- 60% of bank in reach has areas of erosion; high erosion potential during floods.	Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.								
8	SCORE(LB)	Left Bank 10 9	6	3.50	2 1 0								
٥	SCORE(RB)	Right Bank 10 9	6) 7 6	5 4 3	2 1 0								
Parameters to b	9. Vegetative Protection (score each bank) Note: determine left or right side by facing downstream.	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.	70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent, more than one-half of the potential plant stubble height remaining.	50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of hare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.	Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.								
1	SCORE(LB)	Left Bank 10 ③	8 7 6	5 4 3	2 1 0								
1	SCORE(RB)	Right Bank 10 (9)	7 6	5 4 3	2 1 Q								
	10. Riparian Vegetative Zone Width (score each bank riparian zone)	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted zone.	Width of riperian zone 12- 18 meters; human activities have impacted zone only minimally.	Width of riparian zone 6- 12 meters; human activities have impacted zone a great deal.	Width of riparian zone <6 meters: little or no riparian vegetation due to human activities.								
Ì													
<u> </u>	SCORE (LB)	Left Bank (D) 9	8 7 6	5 4 3	2 1 0								

Total Score 130

75 75 170

BENTH	C MACROE	VVERTEBR	ATE FIELD	DATA	SHEET
-------	----------	-----------------	-----------	------	-------

	(6)										
STREAM NAME	142-17-1	LOCATION	BH 247-	Τ							
STATION#	RIVERM!LE	STREAM CL	ASS								
LAT	LONG	RIVER BASI	N								
STORET #		AGENCY	LGAC / &	27							
INVESTIGATORS	LTUA HENRY	 -		_	NUMBER					_	
FORM COMPLETED C	· Chrewt	DATE 3/2	7/01 15. (AM) PM		on for survey	2011	47			_	
HABITAT TYPES	Indicate the ercent	nge of each habitat to Srags 10 %	ype present Vegetated B	ank ₈ 5	_% D Sand	<u>_</u> %					
Sample Collection	Gear used 🛕 D-fra	_	□ Other_			-					
	How were the samp	How were the samples collected?									
	Indicate the number Cobble 100% Submerged Macro	C) Smags		anks		_					
GENERAL COMMENTS	SHALLSW, A	WIND MINING	nt.			٠.				_	
		on DIVEL	א זוענ) א <i>רן</i> נ	126	FIR HABITAT	r) •					
Periphyton Filamentous Algae	_	f 2 3 4	Slimes Macroin	 vertebr	ates		b	2 2	3 (3)	4	
Macrophytes		OD 2 3 4	Fish			(<u>0</u>)	1	2	$\frac{\checkmark}{3}$	4	
FIELD OBSERV. Indicate estimates		Absent/Not Obser			rganisms), 2 = Co , 4 = Dominant (2				13)		
Porifera	0 1 2 3 4	Anisoptera	0 1 2	3 4	Chironomidae	0	ı	2	3	4	
Hydrozoa	0 1 2 3 4	Zygoptera	0 1 2	3 4	Ephemeroptera	0	1	2	3	4	
Platybelminthes	0 1 2 3 4	Hemiptera	0 1 2	3 4	Trichoptera	0	1	2	3	4	
Turbellaria	0 1 2 3 4	Coleoptera		3 4	Other	0	E	2	3	4	
Hirudinea Oligochaeta	0 1 2 3 4 0 1 2 3 4	Lepidoptera Sialidae		3 4 3 4							
-Isopoda	0 1 2 3 4	Corydalidae	0 1 2	3 4							
Amphipoda	0 1 2 3 7	•	0 1 2	3 4	5						
Decapoda	0 1 2 3 4	Empididae	0 1 2	3 4	ł						
Gastropoda		i e									
•	0 1 2 3 4	Simuliidae	0 1 2	3 4	į						
Bivalvia		Simuliidae Tabinidae Culcidae	0 1 2	3 4 3 4 3 4		_					

Rapid Bioassessment Protocols For Use in Streams and Wadeable Rivers: Periphyton, Benthic Macroinvertebrates, and Fish, Second Edition - Form 1

FINAL DRAFT

Barite Hill/Nevada Goldfields SCD 987 597 903 Page 19

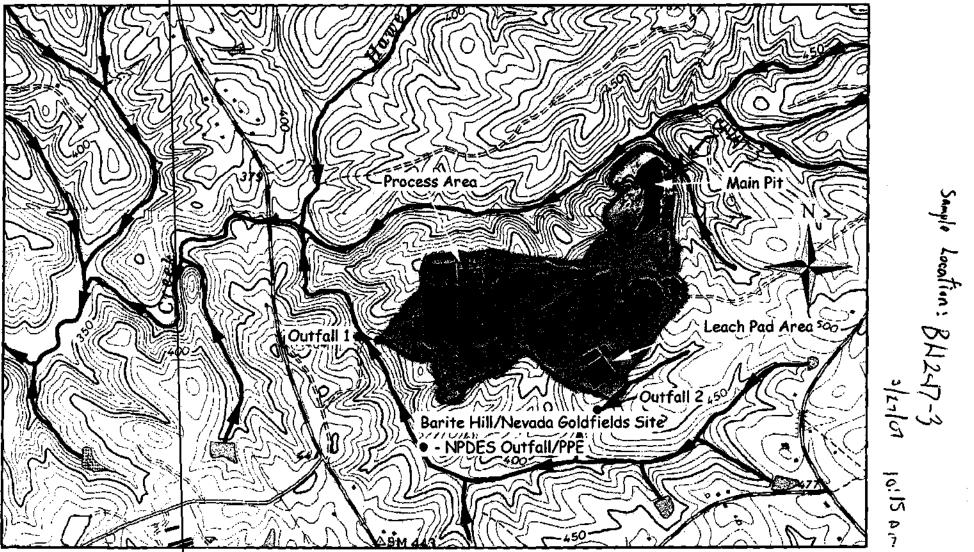


Figure 2 - Surface Water Pathway for Barite Hill/Nevada Goldfields Site

CHEMISTAY BENTAL SEOLAGNI To: 15

7

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET (FRONT)

STREAM NAME		LOCATION BH	247-3	
STATION# RI	VERMILE	STREAM CLASS		
LATLO	NG	RIVER BASIN		
STORET#		AGENCY NEAC	ICLT, FebruidHe	
INVESTIGATORS C . G	NIZWYN B.		sea Is, fredericks	
FORM COMPLETED BY	iizh be-	DATE 3/21/41	REASON FOR SURVEY Of MILWS 510 -	other Evaluation
WEATHER CONDITIONS SUPPLY CLAP WOLL SITE LOCATION/MAP	Draw a map of the si	(steady rain) (s	Has there been a heavy rain Oyes GNo Air Temperature 25°C Other Sampled (or attack a photograph) Apple 5'((B60 rack) Mus slock Mus slock	in the last 7 days? (6571, pp 160) BA2-17-3X POL W LEAF MAT
STREAM	Stream Subsystem		Stream Type Coldwater Warmwa	
CHARACTERIZATION	Spreennial Lin	termittent Tidal	•	_
	Stream Origin Glacial Non-glacial montat Swamp and bog	O Spring-fed Mixture of origin	Catchment Areans	_km ¹

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET (BACK)

WATERSI FEATURE		Predomi Prorest Field/I Agricu Reside	'asture 🖸 Industria Iltural 🔁 Other	cial	Local Watershed NPS Pollution No evidence Some potential sources Obvious sources Local Watershed Eroslon None Moderate Heavy				
RIPARIAN VEGETAT (18 meter l	I ION ruffer)	Indicate O Trees dominar	the dominant type and Shi it species present	record the dos	nigant species present OHer OGrafses OHer EGS (CANGE & SMORE)	rhaceous			
INSTREAL FEATURE	S .	Estimated Reach Lengthm Canopy Cover							
LARGE W DEBRIS	/ООДУ	LWD Density	of LWDm	/41. ² /km² (L.WD/ z	NIMPL/NONE				
AQUATIC VEGETAI	Indicate the dominant type and record the dominant species present Rooted emergent Rooted submergent Rooted floating Free floating Floating Algae Attached Algae dominant species present Portion of the reach with aquatic vegetation 5 %								
WATER	UALITY	Dissolve pH <u>(</u> Turbidi	Conductance 0.58 at Oxygen 1094	7ms/cn o/L	Water Odors Sewage Chemical Petroleum Chemical Pishy Other				
SEDIMEN SUBSTRA		Otlors O North O Chem O Other Oils O Abser	ical Anaerobic	Petroleum None	Looking at stones whic	☐ Sludge ☐ Sawdust ☐ Paper, fiber ☐ Sand			
INC		TRATE	COMPONENTS 00%)		ORGANIC SUBSTRATE C				
Substrate Type	Diamet	ęг	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area			
Bedrock	LAABE, PLI	Your irres	36	Detritus	sticks, wood, coarse plant materials (CPOM)	160 (Dials)			
Boulder	> 256 mm (10"		-3 b		COR PACK.				
Cobble	64-256 mm (2.5	7"-10")	10	Muck-Mud	black, very fine organic (FPOM)				

A-6 Appendix A-1: Habitat Assessment and Physicochemical Characterization Field Data Sheets - Form 1

Mari

grey, shell fragments

Gravel

Sand

Silt

Clay

2-64 mm (0.1"-2.5")

0.06-2mm (gritty)

< 0.004 mm (stick)

0.004-0.06 mm

jó

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (FRONT)

STREAM NAME	LOCATION 6H247-3							
STATION# RIVERMILE	STREAM CLASS							
LATLONG	RIVER BASIN							
STORET#	AGENCY ERT FIRMURBULE REAL							
INVESTIGATORS Rich HEAVY / C. GWST	-AN M. HIERO SCUTT Fredericki							
FORM COMPLETED BY C. GUSSMAN	TIME 1015 W PM CHASON FOR SURVEY SILVENT							
	STATION# RIVERMILE LAT LONG STORET# ENVESTIGATORS Rich Heavy / C. GWJ/							

П	Habitat		Condition	Category						
	Parameter	Optimal	Suboptimal	Marginal	Poor					
	1. Epifaunal Substrate/ Available Cover	Greater than 50% of substrate favorable for epifaunal colonization and fish cover; mix of snaga, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snaga that are not new fall and not transient).	30-50% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).	10-30% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.	Less than 10% stable habitat; lack of habitat is obvious; substrate unstable or lacking.					
불	SCORE	20 19 18 17 16	(15) 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0					
d in sampling reach	2. Pool Substrate Characterization	Mixture of substrate materials, with gravel and firm sand prevalent; root mats and submerged vegetation common.	Mixture of soft sand, mud, or clay; mud may be dominant; some root mats and submerged vegetation present.	All mud or clay or sand bottom; little or no root mat; no submerged vegetation.	Hard-pan clay or bedrock; no root mat or vegetation.					
a de la	SCORE	20 19 18 17 16	15 14 13 12 11	10 (9) 8 7 6	5 4 3 2 1 0					
Parameters to be evaluated in	3. Pool Variability	Even mix of large- shallow, large-deep, small-shallow, small-deep pools present.	Majority of pools large- deep; very few shallow.	Shallow pools much more prevalent than deep pools.	Majority of pools small- shallow or pools absent.					
1 1	SCORE	20 19 18 17 16	15 14 13 12 11	10 ② 8 7 6	5 4 3 2 1 0					
Para	4. Sediment Deposition	Little or no enlargement of islands or point bars and less than <20% of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 20-50% of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel, sand or fine sediment on old and new bars; 50-80% of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; more than 80% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.					
	SCORE	20 19 18 (17) 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0					
	5. Channel Flow Status	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.	Water fills >75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.					
<u>L</u> .	SCORE	20 19 18 17 16	15 14 13 12 11	10 9 (8) 7 6	5 4 3 2 1 0					

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (BACK)

	Habitat		Condition Category									
Ì	Parameter	Optimal	Subeptimal	<u>Mareigal</u>	Poor							
	6. Channel Alteration	Channelization or dredging absent or minimal; stream with normal pattern.	Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e., dredging, (greater than past 20 yr) may be present, but recent channelization is not present.	Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.	Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely.							
1	SCORE	20 19 18 17 16	15 14 13 12 11	10: 9 8 7 6	5 4 3 2 1 0							
apling reach	7. Channel Sinuosity	The bends in the stream increase the stream length 3 to 4 times longer than if it was in a straight line. (Note - channel braiding is considered normal in coastal plains and other low-lying areas. This parameter is not easily rated in these areas.)	The bends in the stream increase the stream length to 2 times longer than if it was in a straight line.	The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.	Channel straight; waterway has been channelized for a long distance.							
1	SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 (6)	5 4 3 2 1 0							
farameters to be evaluated broader than sampling reach	8. Bank Stability (score each bank)	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for fuhre problems. <5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30-60% of bank in reach has areas of erosion; high erosion potential during floods.	Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.							
) ÷	SCORE(LB)	Left Bank 10 (9)	8 7 6	5 4 3	2 1 0							
te b	SCORE(RB)	Right Bank 10 9	8 7 6	5 4 3	2 f 0							
Parameters to	9. Vegetative Protection (score each bank) Note: determine left or right side by facing downstream.	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.	70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.	50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.	Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.							
	SCORE(LB)	Left Dank 10 (2)	8 7 6	5 4 3	2 i 0							
	SCORE(RB)	Right Bank 10	8 7 6	5 4 3	2 1 0".							
	10. Riparian Vegetative Zone Width (score each bank riparian zone)	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted zone.	Width of riparian zone 12- 18 meters; human activities have impacted zone only minimally.	Width of riparian zone 6- 12 meters; human activities have impacted zone a great deal.	Width of riparian zone <6 meters: little or no riparian vegetation due to human activities.							
	SCORE (LB)	Left Bank (10 9	8 7 6	5 4 3	2 1 0							
		Right Bank (10) 9	8 7 6	5 4 3								

Total Score

32

BENTHIC MACROINVERTEBRATE FIELD DATA SHEET (\mathcal{O})

		Ţ,	<u>~1</u>						
STREAM NAME	PW3	7	<u> </u>	-3	<u> </u>	LOCATIO	6H2H1-7		_
TATION #	_ riv	ER	MIL	E_		STREAM	LASS		
.AT TA.	LON	IG.	_			RIVER BA	SIN		7
STORET#	-	_				AGENCY	REAG ERT / godnilllife		
INVESTIGATORS	Rdl	e.	ſΥ	77	۸۴۰	Nigre Chair Co	See S. Heles 4 LOT NUMBER		7
FORM COMPLETED								EY 1-model	7
	(٠.	G١	Λ ₂ -	, MA	TIME _	161 REASON FOR SURV	V July	1
			_						
HABITAT TYPES	Q Co	obb	le		%	age of each habita Snags% hytes%		nd%	CEAR INS
SAMPLE	Gen	 r 144	æď	d	D-fi	ne Offick-net	C) Other		BEDRACK.
COLLECTION	1			•				•	
	I HOM	W)	ere i	mê s	zwp	les collected?	wading O from bank O fro	rn bost	}
				e ma	mbe		in each habitat type.	a	1.
	 			ed M	íacro	O Snaga phytes	O Vegetated Banks Sa D Other (Line Little)		
GENERAL COMMENTS			on	١'n	 	مر 11ءم	hivedval Note!		7
201/21/2111 (18	ı		٠.,	٦,	•				ļ
	l.				7	-			1
	ŀ						NET IPTERVAL NO	160 IN SHARE	1
Periphyton		_			-	1 2 3 4	Slimes Macroinvertebrates	(9 1 2 3 (9 1 2 3	
Filamentous Algae Macrophytes	;				<u> </u>	\checkmark	Fish	U 1 2 3	. 1
FIELD OBSERV Indicate estimate				e:	0 –	Absent/Not Obs	erved, 1 = Rare (1-3 organisms), 2 ndant (>10 organisms), 4 = Domins		
Ponifera	0	1	2	3	4	Anisoptera	0 1 2 3 4 Chironomid	ac 0 1 2 3	4
Hydrozoa					4		0 1 2 3 4 Ephemeropt		4
Platybelminthes	0	ŧ	2	3	4	Hemiptera	0 1 2 3 4 Trichoptera	0 1 2 3	4
Turbellaria	0	1	2	3	4	Coleoptera	0 0 2 3 4 Other	0 1 2 3	1
Hirudinea	0	1	2	3	4	Lepidoptera	0 1 2 3 4	-	
Oligochaeta			_	-		Sialidae	0 1 2 3 4		1
	0	1	2	3	4	CIMILENC			
Isopoda ———	- 0	1 1	2	3	4	Corydalidae	0 1 2 3 4	adult	-
-	- 0-	1 1 1					0 1 2 3 4 0 1 2 3 4	adult alus 11	-
Amphipoda	0	1	2	3	4	Corydalidae	0 1 2 3 4 0 1 2 3 4 0 1 2 3 4	adult individual A motes	-
Amphipoda Decapoda	0 0	1 - 1	2	3	4	Corydalidae Tipulidae	0 1 2 3 4 0 1 2 3 4 0 1 2 3 4 0 1 2 3 4	adult individual A noted	
Isopoda Amphipoda Decapoda Gastropoda Bivalvia	0 0 0 0	1 1 1	2 2	3 3	4 4	Corydalidae Tipulidae Empididae		adult individual ¹ noted	

Rapid Bioassessment Protocols For Use in Streams and Wadeable Rivers: Periphyton, Benthic Macroinvertebrates, and Fish, Second Edition - Form 1

Sample Location: 3/27/07 BH247-11:00 A.M. Sample Location! JUST BELL UNITALG SELL NUT B42-17-At SEEP 1 SOIMEN AT . Light by 5866 BATAL AT 4247-4 AL6A6 SAM46(a) BA247-4 Figure 2 - Surface Water Pathway for Barite Hill/Nevada Goldfields Site Barite Hill/Nevada Goldfields SCD 987 597 903 Page 19

+ T.

FINAL DRAFT

* sample Location BHZ47-5 YSI Water Chemistry Only

SEEP WATE

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET (FRONT)

		·
	STREAM NAME	LOCATION BN247-4
	STATION#RI	VERMILE STREAM CLASS
015 -	LATLO	NG RIVER BASIN
	STORET#	AGENCY REAC / ER1 / Fish-Wildlife.
	INVESTIGATORS C	GWIMAN/LAGARY/M. NIGRO /5. FREDERICAN
	FORM COMPLETED BY	MARY. DATE 3/27/07 TIME 1/1-40 PM REASON FOR SURVEY STALAN SINGULAL MARKET LMPACT
	WEATHER CONDITIONS SUNNY, WAAN.	Now Past 24 Has there been a heavy rain in the last 7 days? Storm (heavy rain) Air Temperature Storm (first mittent)
		A cleat/sunny
	SITE LOCATION/MAP	Draw a map of the site and indicate the areas sampled (or attach a photograph) 185 YA401 TO MANN PLT, SITE LAAGE VISTRIA SEEP OF STEEP BANK. BA247-4 BA247-4 Consocité) BEPLOAR LANGE DOVLDERS
	STREAM CHARACTERIZATION	Stream Subsystem Perennial OIntermittent Tidal ZColdwater Warmwater Stream Origin Catchment Areakm² Coldwater Warmwater Stream Type Catchment Areakm² Coldwater Warmwater Coldwater Warmwater Stream Type Catchment Areakm² Coldwater Warmwater Coldwater Warmwater Catchment Areakm² Coldwater Warmwater Coldwater Warmwater Catchment Areakm² Coldwater Warmwater Coldwater Wa

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET (BACK)

WATERS		Rredomi Forest G Field/I G Agrict Reside	Pesture Dindustria	cial	Local Watershed NPS P No evidence Some Obvious sources Local Watershed Erosk None Moderate	potential sources 5668 FAIR Of ABCAING	f whin list-
RIPARIA VEGETA (18 meter	IN ITION r buffer)	7	the dominant type and Shat species present	record the dor	المناهدة	baccous R ACACHCS L	•
FEATURES Estimate Samplia Area is I Estimate				m m³ km²	Canopy Cover Partiy open	2m	
LARGE DEBRIS	WOODY	LWD Density	of LWD Gray m	() c C Q ₃ (; 1 ³ /km² (LWD/ 1	mal lage becander in w reach area)	eter (MINIMAL)	
AQUATI VEGETA		☐ Floati	the dominant type and demergent ORc Algae & Arnt ALGA	noted submerger tached Algae	·		
l		Portion	of the reach with aquat	ic vegetation_	5_%		
WATER	QUALITY	Specific	ature <u>15. 6</u> ° C Conductance <u>3. 964 m</u> ed Oxygen <u>55.690</u>	s/cm		ge Chemical Other	
	_		Z <u>15</u> ty <u>3.07 N.</u> PV · trument Used <u>F5</u> Z	<u>!</u>	O Slick O Sheen O None O Other Turbidity (if not mease O Clear O Slightly tu O Opaque O Stained	red) bid O Turbid O Other	
SEDIME SUBSTR		ľ	al OSewage ical OAnagrobic ORAN (6 SSOTTOF	O Petroletum O None	Looking at stones which	O Paper fiber O Sand Other Arch 6 Communication	
		Oils Abser	nt OSlight O Modera	te 🔾 Profiu	are the undersides blac se	K m colors	
IN	ORGANIC SUBS	STRATE	ARACS	 	ORGANIC SUBSTRATE C (does not necessarily add		
Substrate Type	e Diamet	er	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area	Exposed
Bedrock	CALL SCA		50	Detritus	sticks, wood, coarse plant materials (CPOM)	20% QUENIG G	Exposed REST BEOREDA ETC
Boulder	> 256 mm (10"		25				· ^ `
Cobble	64-256 mm (2.5		10	Muck-Mud	black, very fine organic (FPOM)		1
	Gravel 2-64 mm (0.1"-2.5")			h			ł ·
Sand	0.06-2mm (gritt		/ 0 C 5	Marl	grey, shell fragments		1
Silt	< 0.004-0.06 mm < 0.004 mm (sti			1		1	<u> </u>
Clay	~ v.vv4 mm (si	UK)	l	L	L	l	1

A-6 Appendix A-1: Habitat Assessment and Physicochemical Characterization Field Data Sheets - Form 1

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (FRONT)

BH 247 - L LOCATION STREAM NAME STATION#_ RIVERMILE STREAM CLASS LONG RIVER BASIN LAT STORET# AGENCY RUAC INVESTIGATORS DATE 3/2-1/0 / TIME 4:15 C. GUSSMAN REASON FOR SURVEY FORM COMPLETED BY SILGAM

1 1	Habitat		Condition Category											
	Parameter	Optimal	Suboptimal	Marginal	Poer									
	1. Epifannai Sabstrate/ Available Cover	Greater than 50% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, maderent banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).	30-50% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).	10-30% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.	habitat; lack of habitat is obvious; substrate unstable or lacking.									
eac)	SCORE	20 19 18 17 16	15 14 (13) 12 11	10 9 8 7 6	5 4 3 2 1 0									
Parameters to be evaluated in sampling reach	2. Pool Substrate Characterization	Mixture of substrate materials, with gravel and firm sand prevalent; root mats and submerged vegetation common.	Mixture of soft sand, mud, or clay; mud may be dominant; some root mats and submerged vegetation present.	bottom; little or no root mat; no submerged vegetation.	Hard-pan clay or bedrock; no root mat or vegetation.									
	SCORE	20 19 18 17 16	15 14 13 12 11	10 9 (8) 7 6	5 4 3 2 1 0									
rs to be eval	3. Pool Variability	Even mix of large- shallow, large-deep, small-shallow, small-deep pools present.	Majority of pools large- deep; very few shallow.	Shallow pools much more prevalent than deep pools.	Majority of pools small- shallow or pools absent.									
1 2	SCORE	20 19 18 17 16	15 14 13 (12) 11	10 9 8 7 6	5 4 3 2 1 0									
Pare	4, Sediment Deposition	Little or no enlargement of islands or point bars and less than <20% of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 20-50% of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel, sand or fine sediment on old and new bars; 50-80% of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; more than 80% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.									
	SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0									
	5. Channel Flow Status	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.	Water fills >75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.									
┷	SCORE	20 19 18 17 16	<u>15 14 13 12 11</u>	10 9 8 7 6	5 4 3 2 1 0									

55

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (BACK)

	Habitat	Condition Category												
1	Parameter	Optimal	Suboptimal	Marginal	Poor									
	6. Channel Alteration	Chamelization or dredging absent or minimal; stream with normal pattern.	Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e., dredging, (greater than past 20 yr) may be present, but recent channelization is not present.	Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.	Banks shored with gabion or cernent; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely.									
	SCORE	20 (19) 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0									
ipling reach	7. Channel Sinuosity	The bends in the stream increase the stream length 3 to 4 times longer than if it was in a straight line. (Note - channel braiding is considered normal in coastal plains and other low-lying areas. This parameter is not easily rated in these areas.)	The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.	The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.	Channel straight; waterway has been channelized for a long distance.									
2	SCORE	20 19 18 17 16	13 14 (3) 12 11	10 9 8 7 6	5 4 3 2 1 0									
Parameters to be evaluated broader than sampling reach	8. Bank Stability (score each bank)	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for funce problems. <5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30- 60% of bank in reach has areas of erosion; high erosion potential during floods.	Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank alonghing; 60-100% of bank has erosional sears.									
o be eva	SCORE(LB) SCORE(RB)	Left Bank (19 9 Right Bank (10 9	8 7 6 8 7 6	5 4 3 5 4 3	2 1 0 2 1 0									
Parameters i	9. Vegetative Protection (score each bank) Note: determine left or right side by facing downstream.	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.	70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.	50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.	Less than 50% of the steambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.									
[SCORE(LB)	Left Bank (19) 9	8 7 6	5 4 3	2 1 0									
•	SCORE(RB)	Right Bank (10)9	8 7 6	5 4 3	2 1 0									
	10. Riparian Vegetative Zone Width (score each bank riparian zone)	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted zone.	Width of riparian zone 12- 18 meters; human activities have impacted zone only minimally.	Width of riparian zone 6- 12 meters; human activities have impacted zone a great deal,	Width of riparian zone <6 meters: little or no riparian vegetation due to human activities.									
	SCORE(LB)	Left Bank 0 9	8 7 6	5 4 3	2 I 0									
[SCORE(RB)	Right Bank 0 9	8 7 6	5 4 3	2 1 0.									

Total Score 147

92

BENTHIC MACROINVERTEBRATE FIELD DATA SHEET

STREAM NAME							_ լ	LOCATION BH 247-4												
STATION#	RI	VEF	ZMIL	.E_			S	TRE	AM C	LASS										
LAT	ĽO	NG	_	_	_	_	P	JVE	R BA	SIN										٦
STORET #		_					TA	AGENCY FAT REAL												
INVESTIGATORS	R.	N6.	MQX	,									Tī	TO.	NUMBER					٦
FORM COMPLETED			-15/				T_{r}	AT	B 12	761	$\overline{}$		丁	ŒAS	ON FOR SURVEY					٦
								IMI) - (PM	3	who	ical/slaum small	1				1
		<u> </u>	_	_	_	_	_	_				_	<u> </u>					_	_	二
Habitat Types										type p	resen	it i	71	1 _A		46				1
	ä	Jour Subr	ble nerge	ed M	% Lacroj	ں س phyte)Nag.	<u>۔۔</u> ایک	_%	_	() ()	Arcu Xher	(<i>14</i>	KSŲ ∽	_%	_70				١
SAMPLE	G.	9F 11	<u></u>	_	D-fia	me	ום	-ick)ther								╗
COLLECTION								•												١
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										in esc					20.1					
i j			bie_ nerge			u a obyte	Snag =s	<u>-</u> -	_	0,	/eger	laicu)ther	Banı (427	ks	Sand	-				
GENERAL												_	<u>``~`</u>	7117011			_			7
GENERAL COMMENTS	1/	7	۸//	(2)		NΙ	200	161	ry/	alve:	1)									
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L	<u> </u>																			
·			_				_													
QUALITATIVE L											- - 1		. 4	- C	2- thund	'+	4.			
Indicate estimated Dominant	BD4	Mu:	lince	# T) - ,,	7D\$¢	Dv.	VOz.	Ubsci	rveu,	1	Kar.	e, 4	· = U	ommon, 3= Abund	an,	, 4 -			
L'Vituis																				
Periphyton				_	0	1	2	3	4		Sli	mes				0	1	2	3	4
Filamentous Algae					0	ì	2	3	4					rtebr	ates	0	1		•	-
Macrophytes					0	L	2	3	4_		Fis					0		2	3	4
				-								-								
FIELD OBSERVA																				
Indicate estimated	l abu	ınd	ance												rganisms), 2 = Con					
					orga	lmist	M3),	, 3=	Abu	idant ((>1u	org	;anis	sms)	, 4 = Dominant (>:	0 0	rgai	ıism	is)	
Pariforn		_	- -		1	A-	ina	+			-			4	Chi-momidee	_		 -	_	_
Porifera Hydrozoa					4					_	1	_	_	4	Chironomidae Ephemeroptera	•	1	_	3	
Platyhelminthes														4			1		3	
Turbellaria	0	i	2	3	4				16		Ġ		3	4	Other	0	i	2	3	4
Hirudinea	0	ĺ	2	3	4		pido			Õ	_	2	3	4	J	-	-	_	•	-
Oligochaeta	0	1	2	3	4		alida	•		0	1	2	3	4						
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Amphipoda	•	1	2	3	4	Tir	pulie	4				-	3	4	l <i>'</i>				ሳ ረ	
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		-				En Sir		lidae iidae	e =	_	1			4						

FINAL DRAFT

Barite Hill/Nevada Goldfields SCD 987 597 903 Page 19

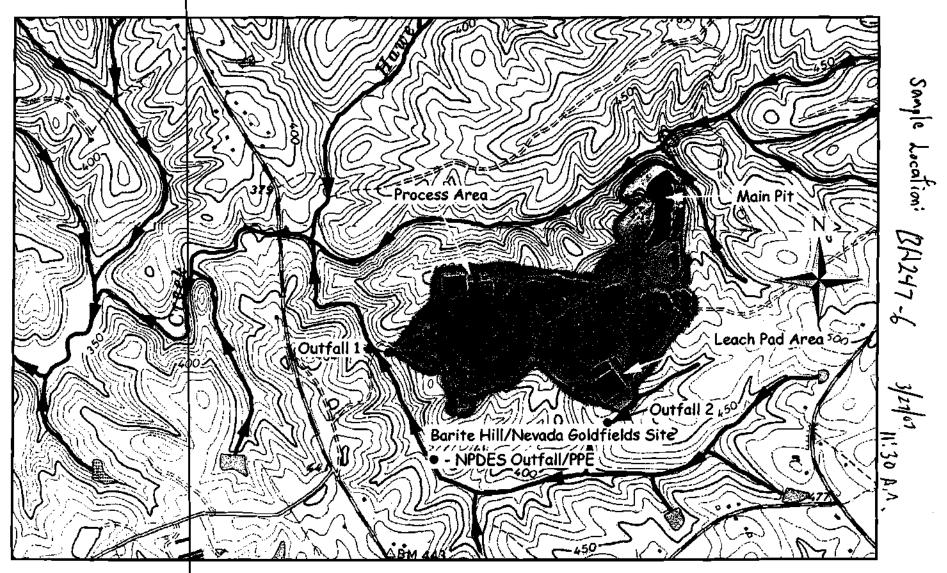


Figure 2 - Surface Water Pathway for Barite Hill/Nevada Goldfields Site

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET (FRONT)

Ţ	STREAM NAME		LOCATION	BA247-6		
ţ	STATION#RI	VERMILE	STREAM CLAS			
GP 55:	LATLO	NG	RIVER BASIN			
	STORET #		AGENCY			
Ī	INVESTIGATORS (2.	ch Alenry Chois G	varan Mike	Nigro / 50	off Fredericks	_
[FORM COMPLETED BY Charles for hor	Cours	DATE 1121 TIME 11:32	67 (A) PM	REASON FOR SURVEY Biological Maillering	scream opact madering
·	WEATHER CONDITIONS SUMMY,	O rain ((beavy rain) steady rain) s (intermittent) loud cover car/sunay	000	Has there been a beavy rain Yes DNo Air Temperature 25°C Other	
ł	SITE LOCATION/MAP		<u>_</u>		ed (er attach a phetegraph)	
		CLOS A		Sylm Solly, grall paol	211	
		IMPACTED(1) A	aea ca side		Just upstacem	OF MAIN CHANNEL
1	STREAM CHARACTERIZATION	Stream Subsystem Perennial Unit	ermittent 🖸 Tid	al	Stream Type	iler
		Stream Origin Glacial Non-glacial montan Swamp and bog	☐ Spring-fe	d .	Catchment Area	_km²

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET (BACK)

WATERSI FEATURE		Predomi Forest Dield/I Agrica Reside	Pasture 🔾 Industria ultural C Other	cial	Local Watershed NPS P No evidence Some Obvious sources Local Watershed Eresia Moderate	potential sources	
RIPARIAN VEGETAT (18 meter t	TION	Indicate Trees domina	Indicate the dominant type and record the dominant species present Grasses Grasses Grasses Grasses				
INSTREAL FEATURE		Estimate Samplia Area in Estimate Sarrace	ed Reach Length ed Stream Width g Reach Area -2 km² (m²x1000) ed Stream Depth 0.5 Velocity m	m² km²	Channeltzed WYes	Lm presented by Stream Run%	
LARGE W	YOODY	LWD		<i>\$0€</i> ^1 2/km² (LWD / 1	6 WOOV DEBELS, Nº LA	abb shabi.	(MATURAL)
AQUATIO		C Roote D-Floati domina	ng Algae	orted submerger tached Algae	nt Q Rooted floating	□ Free floating	
WATER (Portion of the reac WATER QUALITY Temperature 17 Specific Conductat Dissolved Oxygen				Water Oders Normal/None 🗆 Sewa	ec Chemical Other	
рн <u>4</u>					Water Surface Oib Q Slick Q Sheen Q Slick Q Sheen Q Turbidity (if not measu Q Clear Q Stightly tu: Q Opaque Q Stained	Globs O Flecks red) bid O Turbid O Other	
SEDIMENT/ Odors SUBSTRATE EN Octor Octor			ical D Anaerobic	O Petroleum O None	Looking at stones which	D Paper fiber D Sand Other Pilling D are not deeply embedded,	
L		Oils D Abser	nt O Slight O Moderan	te Cl Profit	se Ves Who	K IB COJOC?	
INC		STRATE	COMPONENTS		ORGANIC SUBSTRATE C (does not necessarily add		
Substrate Type	Diamet	er	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area	
Bedrock			10	Detritus	sticks, wood, coarse plant materials (CPOM)	20%	RUST, MILLY
Boulder	> 256 mm (10*	<u> </u>	16		The state of the s		C086665
Cobble	64-256 mm (2.:	256 mm (2.5"-10") 75		Muck-Mud	black, very fine organic (FPOM)		l ,
Gravel	2-64 mm (0.1°	2.5")			(FFUM)		<u> </u>
Sand	0.06-2mm (grit	ty)	3	Mari	grey, shell fragments		1
Silt	0.004-0,06 mm]	!		{
Clay	< 0.004 mm (c)	ick)		Ţ	i	ſ	(

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (FRONT)

	STREAM NAME	LOCATION BH247 - 6				
		STATION# RIVERMILE	STREAM CLASS			
/11	14.	LATLONG	RIVER BASIN			
611		STORET#	AGENCY ERT/REAC/FULLAWILDIA			
	INVESTIGATORS C.G. /MNIGO C. AL	nex S. Fredericks.				
		FORM COMPLETED BY	DATE 3/21/21 REASON FOR SURVEY			
		C. GUSSNAN	TIME TIME AND PM Biological STEER STILL			

	Habitat		Condition	Category	
	Parameter	Optimal	Suboptimal	Marginal	Poor
	1. Epifausal Substrate/ Available Cover	Greater than 50% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged loga, undercut banks, cobbie or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).	30-50% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).	10-30% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.	Less than 10% stable habitat; lack of habitat is obvious; substrate unstable or lacking.
reach	SCORE	20 19 18 17 16	15 14 (13) 12 11	10 9 8 7 6	3 4 3 2 1 0
in sampling reach	2. Pool Substrate Characterization	Mixture of substrate materials, with gravel and firm sand prevalent, root mats and submerged vegetation common.	Mixture of soft sand, mud, or clay; mud may be dominant; some root rasts and submerged vegetation present.	All mud or clay or sand bottom, little or no root mat, no submerged vegetation.	Hard-pan clay or bedrock; no root mat or vegetation.
릙	SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6/	3 4 3 2 1 0
ry to be evaluated in	3. Pool Variability	Even mix of large- shallow, large-deep, small-shallow, small-deep pools present.	Majority of pools large- deep; very few shallow.	Shallow pools much more prevalent than deep pools,	Majority of pools small- shallow or pools absent.
ă	SCORE	20 19 18 17 16	15 14 13 12 11	10 (9) 8 7 6	5 4 3 2 1 0
Parameters to	4. Sediment Deposition	Little or no enlargement of islands or point bars and less than <20% of the bottom affected by sediment deposition.	Some new increase in har formation, mostly from gravel, saad or fine sediment; 20-50% of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel, sand or fine sediment on old and new bars; 50-80% of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development, more than 80% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.
]	SCORE	20 19 18 17 16	15 (14) 13 12 11	10 9 8 7 6	5 4 3 2 1 0
	5. Channel Flow Status	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.	Water fills > 75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.
<u> </u>	SCOPE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5.43210

59

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (BACK)

	Habitat		Condition	Category	
ì	Parameter	Optimal	Suboptimal	Marginal	_Poer
	6. Channel Alteration	Channelization of dredging absent or minimal; stream with normal pattern.	Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e., dredging, (greater than past 20 yr) may be present, but recent channelization is not present.	Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.	Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely.
- 1	SCORE	29 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
sampling reach	7. Channel Sinuosity	The bends in the stream increase the stream length 3 to 4 times longer than if it was in a straight line. (Note - channel braiding is considered normal in coastal plains and other low-lying areas. This parameter is not easily rated in these areas.)	The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.	The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.	Channel straight; waterway has been channelized for a long distance.
4	SCORE	20 19 18 17 16	15 14 13 <u>12</u> 11	19 9 8 7 6	5 4 3 2 1 0
Parameters to be evaluated broader than	\$. Bank Stability (score each bank)	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30- 60% of bank in reach has areas of erosion; high erosion potential during floods.	Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional sears.
be eva	SCORE(LB)	Left Benk 10 9	(§) 7 6 (§) 6) 6	5 4 3	2 1 0
3	SCORE (RB)	Right Bank 10 9	T 0 6	5 4 3	21_0
Parameters t	9. Vegetative Protection (score each bank) Note: determine left or right side by facing downstream.	More than 90% of the streambenk surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.	70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.	50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.	Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.
	SCORE(LB)	Left Bank 10 (9)	8 7 6	5 4 3	2 1 0
	SCORE(RB)	Right Bank 10 6)	8 7 6	5 4 3	2 1 0
	10. Riparian Vegetative Zene Width (score each bank riparian zone)	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted zone.	Width of riparian zone 12- 18 meters; human activities have impacted zone only minimally.	Width of riparian zone 6- 12 meters; human activities have impacted zone a great deal.	Width of riparian zone <6 meters: little or no riparian vegetation due to human activities.
	SCORE(LB)	Left Blank (192 9	8 7 6	5 4 3	2 1 0
	SCORE(RB)	Right Bank 10 9	8 7 6	5 4 3	2 1 0

Total Score 1412_

51 43

BENTHIC MACROINVERTEBRATE FIELD DATA SHEET

STREAM NAME	1	LOCATION BA	247-1				
STATION#	RIVERMILĖ S	STREAM CLASS	_				
LAT	LONG F	RIVER BASIN					
STORET#		AGENCY GET	PEK F	ished b	villlife.		
NVESTIGATORS	Rich Henry Mike Muque	Cheis Genman Scott	Fredericks	LOT	IUMBER		
FORM COMPLETED	ВУ	DATE 3/27 51		REAS	ON FOR SURVEY	£ 40.	24.0
	ANIO GUAMM	TIME HI-19 (<u> </u>	Bio	ogial STREAM	The	14.6
HABITAT TYPES	Indicate the percentage of ea	ach hebitet type pres	ent			-	_
DOMINI (IIES	☐ Cobble% ☐ Snag	ცა%	getated Bar	nks	_	_%	
	☐ Submerged Macrophytes	%	Other ()%		
SAMPLE	Gear used 🚨 D-frame 🗆 1	kick-net G	Other_				
COLLECTION	How were the samples collec	cted?	O fre	en bani	k 🔾 from boal	ì	
	Indicate the number of jabs/	Skieka takan in asah b	na krista s san				
	□ Cobble _ □ Snag	Rs _ □Ver	getated Ba		Sand	_	
	Submerged Macrophytes	<u></u>	Other (<u> </u>		_
GENERAL	SMALL TABROLGI OF	NLY CIVING F	AVA A				
COMMENTS	frants to a second						
QUALITATIVE I	LISTING OF AQUATIC B		- Rare,	2 = C	ommon, 3= Abund	lant,	4
QUALITATIVE I			= Rare,	2 = C	ommon, 3= Abund	lant,	4
QUALITATIVE I	abundance: 0 = Absent/l	Net Observed, 1	= Rare,	2 = C	ommon, 3=Abund	lant,	4
QUALITATIVE I Indicate estimate Dominant	abundance: 0 - Absent/N // A - MNE 0 1 2	Net Observed, 1	_	_	· · · · · ·		4
QUALITATIVE I	abundance: 0 = Absent/N A - MNE 0 1 2 0 1 2	3 4 5 3 4 h	Slimes	_	· · · · · ·	0	1 1 1
QUALITATIVE I Indicate estimates Dominant Periphyton Filamentous Algae Macrophytes FIELD OBSERV	abundance: 0 = Absent/	3 4 5 3 4 1 3 4 1 3 4 1 3 THOS	Slimes Macroinv Sish Rare (ertebr	ales	0 0 0 0	1 1
QUALITATIVE I Indicate estimates Dominant Periphyton Filamentous Algae Macrophytes FIELD OBSERV	abundance: 0 = Absent/N 0 1 2 0 1 2 0 1 2 0 1 2 ATIONS OF MACROBEN I abundance: 0 = Absent/organisms),	Not Observed, 1: 3 4 S 3 4 N 3 4 M YTHOS /Not Observed, 1 1, 3= Abundant (>:	Slimes Macroinv Fish = Rare (10 organ	ertebr	ates rganisms), 2 = Con , 4 = Dominant (>	0 0 0 mmon	1 1 1 (3)
QUALITATIVE I Indicate estimates Dominant Periphyton Filamentous Algae Macrophytes FIELD OBSERV Indicate estimates	abundance: 0 = Absent/N 0 1 2 0 1 2 0 1 2 ATIONS OF MACROBEN abundance: 0 = Absent/organisms),	Not Observed, 1: 3 4 5 3 4 1 3 4 1 VTHOS /Not Observed, 1 b, 3= Abundant (>)	Slimes Macroinv Sish = Rare (10 organ	ertebr 1-3 or isms)	rganisms), 2 = Con 4 = Dominant (>:	0 0 0 mmon	1 1 1 (%)
QUALITATIVE I Indicate estimates Dominant Periphyton Filamentous Algae Macrophytes FIELD OBSERV Indicate estimates Porifera Hydrozoa	abundance: 0 = Absent/	Not Observed, 1: 3 4 5 3 4 1 3 4 5 THOS Not Observed, 1 4, 3= Abundant (>: ptera 0 ptera 0	Slimes Macroinv Sish = Rare (10 organ	(1-3 or isms)	rganisms), 2 = Con 4 = Dominant (>: Chironomidae Ephemeroptera	0 0 0 0 mmon 50 or	1 1 1 1 1 1
QUALITATIVE I Indicate estimates Dominant Periphyton Filamentous Algae Macrophytes FIELD OBSERV Indicate estimates Porifera Hydrozoa	abundance: 0 = Absent/N 0 1 2 0 1 2 0 1 2 0 1 2 ATIONS OF MACROBEN abundance: 0 = Absent/organisms), 0 1 2 3 4 Anisot 0 1 2 3 4 Zygop	3 4 5 3 4 5 3 4 7 THOS Not Observed, 1 b, 3= Abundant (>) ptera 0 ptera 0 ptera 0 ptera 0	Slimes Macroinv ish = Rare (10 organ 1 2 3	1-3 or isms), 4	rganisms), 2 = Con 4 = Dominant (>:	0 0 0 0 mmon 50 or	1 1 1 1 1 1
QUALITATIVE I Indicate estimates Dominant Periphyton Filamentous Algae Macrophytes FIELD OBSERV Indicate estimates Porifera Hydrozoa Platyhelminthes	Absent/ 0 1 2 0 1 2 0 1 2 0 1 2 ATIONS OF MACROBEN organisms), 0 1 2 3 4 Anisot organisms of the second of	Not Observed, 1: 3 4 5 3 4 7 3 4 7 OTHOS /Not Observed, 1 b, 3= Abundant (>: ptera 0 ptera 0 ptera 0 ptera 0 ptera 0 ptera 0	Slimes Macroinv ish Rare (10 organ 1 2 3 1 2 3	(1-3 or isms)	rganisms), 2 = Con 4 = Dominant (>: Chironomidae Ephemeroptera Trichoptera	0 0 0 0 0 0 0 0 0 0	1 1 (3) ga
QUALITATIVE I Indicate estimates Dominant Periphyton Filamentous Algae Macrophytes FIELD OBSERV Indicate estimates Porifera Hydrozoa Platyhelminthes Turbellaria	abundance: 0 = Absent/	Not Observed, 1 3 4 5 3 4 6 3 4 7 VTHOS /Not Observed, 1 b, 3= Abundant (> ptera 0	Rare (10 organ 2 3 3 1 2 3 3 1 2 3 3 1 2 3 3 1 2 3 3 1 2 3 3 1 2 3 3 1 3 3 3 3	(1-3 or isms),	rganisms), 2 = Con 4 = Dominant (>: Chironomidae Ephemeroptera Trichoptera	0 0 0 0 0 0 0 0 0 0	1 1 (3 ga
QUALITATIVE I Indicate estimate Dominant Periphyton Filamentous Algae Macrophytes FIELD OBSERV Indicate estimated Porifera Hydrozoa Platyhelminthes Turbellaria Hirudinea	abundance: 0 = Absent/	Not Observed, 1 3 4 S 3 4 B 3 4 F VTHOS /Not Observed, 1 b, 3 = Abundant (>) ptera 0	Slimes Macroinv Fish	(1-3 or isms), 4	rganisms), 2 = Con 4 = Dominant (>: Chironomidae Ephemeroptera Trichoptera Other	0 0 0 0 0 0 0 0 0 0	1 1 (3 ga 1 1 1
QUALITATIVE I Indicate estimate Dominant Periphyton Filamentous Algae Macrophytes FIELD OBSERV Indicate estimate Porifera Hydrozoa Platyhelminthes Turbellaria Hirudinea Oligochaeta Isopoda Amphipoda	Abundance: 0 = Absent/	Not Observed, 1 3 4 S 3 4 M 3 4 M 3 4 M STHOS /Not Observed, 1 b, 3= Abundant (>) ptera 0	Slimes Macroinv Sish	1-3 or isms), 4 4 4 4 4 4 4 4 4	rganisms), 2 = Con 4 = Dominant (>: Chironomidae Ephemeroptera Trichoptera Other	0 0 0 0 0 0 0 0 0 0	1 1 1 (3 ga 1 1 1 1
QUALITATIVE I Indicate estimates Dominant Periphyton Filamentous Algae Macrophytes FIELD OBSERV Indicate estimates Porifera Hydrozoa Platyhelminthes Turbellaria Hirudinea Oligochaeta Isopoda Amphipoda Decapoda	Absent/N	Not Observed, 1 3 4 S 3 4 M 3 4 M 3 4 M STHOS /Not Observed, 1 b, 3= Abundant (>) ptera 0	Slimes Macroinv Sish	1-3 or isms), 4 4 4 4 4 4 4 4 4	rganisms), 2 = Con 4 = Dominant (>: Chironomidae Ephemeroptera Trichoptera	0 0 0 0 0 0 0 0 0 0	1 1 (3 ga 1 1 1 1
QUALITATIVE I Indicate estimates Dominant Periphyton Filamentous Algae Macrophytes FIELD OBSERV Indicate estimates Porifera Hydrozoa Platyhelminthes Turbellaria Hirudinea Oligochaeta Isopoda Amphipoda Decapoda Gastropoda	Absent/No.	3 4 5 3 4 7 3 4 7 3 4 7 3 4 7 3 4 7 WTHOS //Not Observed, 1 4, 3= Abundant (>) ptera 0	Slimes Macroinv Sish	1-3 oi isms), 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	rganisms), 2 = Con 4 = Dominant (>: Chironomidae Ephemeroptera Trichoptera Other	0 0 0 0 0 0 0 0 0 0	1 1 (3 ga 1 1 1 1
QUALITATIVE I Indicate estimates Dominant Periphyton Filamentous Algae Macrophytes FIELD OBSERV Indicate estimates Porifera Hydrozoa Platyhelminthes Turbellaria Hirudinea Oligochaeta Isopoda Amphipoda Decapoda	Absent/N	Not Observed, 1 3 4 S 3 4 M 3 4 M 3 4 M 3 4 M 3 4 M 3 4 M 3 A M 4 M 5 M 5 M 5 M 6 M 6 M 6 M 6 M 6 M 6 M 6 M 6 M 6 M 6	Rare (10 organ 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3	1-3 oi isms), 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	rganisms), 2 = Con 4 = Dominant (>: Chironomidae Ephemeroptera Trichoptera Other	0 0 0 0 0 0 0 0 0 0	1 1, 1 (3) gai

Rapid Bioassessment Protocols For Use in Streams and Wadeable Rivers: Periphyton, Benthic Macroinvertebrates, and Fish, Second Edition - Form 1

Sample Location: BA 2416-7 - FULTABLE UPSTEAM IN "CLEAN" PREA (7)

AT CONFLOR SIDE TRIBUTORY NE OF SITE

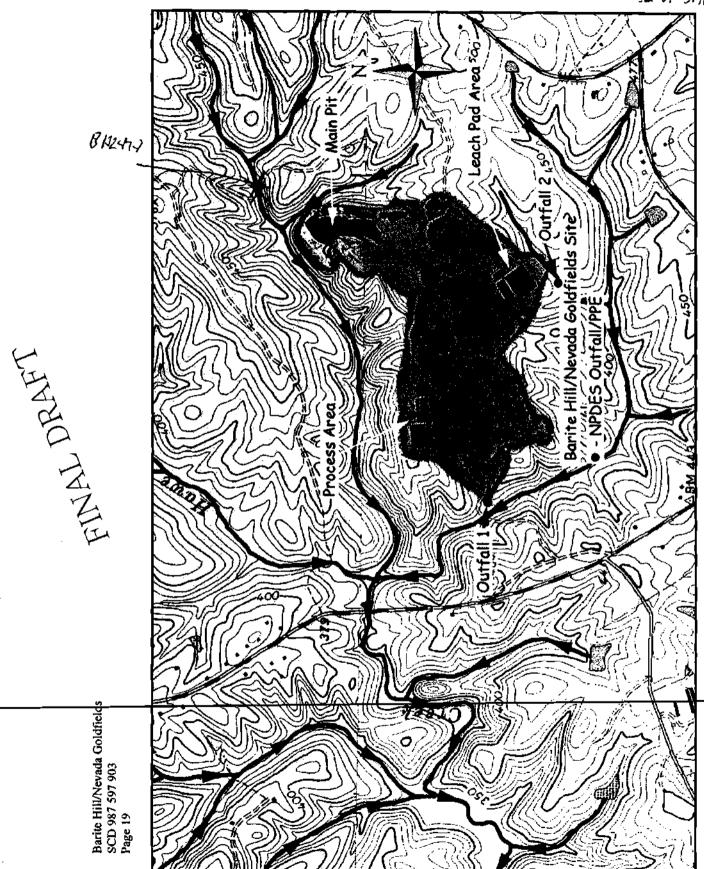


Figure 2 - Surface Water Pathway for Barite Hill/Nevada Goldfields Site

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET (FRONT)

							
	STREAM NAME	LOCATION B/4	247 - 7				
	STATION# RI	ERMILESTREAM CLASS	·,				
6N 20	LAT LO	G RIVER BASIN					
Gla	STORET#	AGENCY EL1/ REA	c				
	INVESTIGATORS M. A		S V 64 ldls				
	FORM COMPLETED BY	DATE \$1107 TIME \$155	PM BIOLOGICAL SURVEY STATEM INVOCA				
	WEATHER CONDITIONS	Now Past 2 hours	Di Yes Oli No				
	JUNNY.	storm (heavy rain) Q rain (steady rain) Q showers (intermittent) Q welloud cover	Air Temperature 25 °C (ESIMATO) % Other				
		Clear/sunny 49					
	SITE LOCATION/MAP	Draw a map of the site and indicate the areas	nampled (or attach a photograph)				
	BH2-17-7 STICEPER BANNI LESS LUNDER SUL						
	STREAM CHARACTERIZATION	Stream Subsystem Perennial Intermittent Tidal Stream Origin	Stream Type Coldwater Catchment Area km²				
	<u> </u>	☐ Glacial ☐ Spring-fed ☐ Mixture of origin ☐ Swamp and bog ☐ Other ☐					

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PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET (BACK)

BH247-7

WATERSHED FEATURES	Predominant Surrounding Landuse Di Forest	Local Watershed NPS Pollution (I No evidence (I Some potential sources (I) Obvious sources Local Watershed Erosion (I) None (I) Moderate (I) Heavy
RIPARIAN VEGETATION (18 meter buffer)	Indicate the dominant type and record the doming trees dominant species present MATING BEECH >	ant species present Grasses GRANE LIBUALLY PINE
INSTREAM FEATURES	Estimated Reach Lengthm Estimated Stream Widthm Sampling Reach Aream² Area in km² (m²x1000)km² Estimated Stream Depthm (fixt) Surface Velocitym/sec (at thaineg)m/sec Feach	Canopy Cover
LARGE WOODY DEBRIS	LWD	
AQUATIC VEGETATION	Indicate the dominant type and record the domin Rooted emergent Rooted submergent Floating Algae dominant species present Portion of the reach with squatic vegetation	90 MINIMAL
WATER QUALITY	Temperature 17.5 °C Specific Conductance 2.3 nJ/cn Dissolved Oxygen 72.5% /6.7 mg/t pH 6.7 Turbidity 1.1 WQ Instrument Used YS I	Water Odors Normal/None Sewage Petroleum Chemical Fishy Other Water Surface Oils Slick Cl Sheen Globs Flecks None Other Turbidity (if not measured) Clear Slightly turbid Other Opaque Stauned
SEDIMENT/ SUBSTRATE	Oders Nonnal Sewage Petroleum Chemical Anaerobic None Other Oils Absent OSlight OModerate OProfuse	Deposits O Studge O Sawdust O Paper fiber O Sand O Relict shells O Other FILLEN Looking at stopes which are not deeply embedded, are the undersides black in color? O Yes O No

INORGANIC SUBSTRATE COMPONENTS (should add up to 190%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)			
Substrate Type	Djameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area	
Bedrock		2.0	Detritus	sticks, wood, coarse plant materials (CPOM)	25% IN POOL	
Boulder	~ 256 mm (10")	2.0	} _	(BACFLAS ICPOM)		
Cobble	64-256 mm (2.5"-10")	40	Muck-Mud	black, very fine organic		
Gravel	2-64 mm (0.1"-2.5")	20	1	(FPOM)		
Sand	0.06-2mm (gritty)		Mari	grey, shell fragments		
Silt	0.004-0.06 mm		1			
Clay	< 0.004 mm (slick)		1			

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (FRONT)

STREAM NAME	LOCATION BH247-6 BH247-7
STATION# RIVERMILE	STREAM CLASS
LAT LONG	RIVER BASIN
STORET#	AGENCY REACHERT FOW
INVESTIGATORS C.G. R.N. M.	v,/ <i>5</i> .f′
FORM COMPLETED BY	DATE 1/21/67 TIME 11:50 (AM) PM BIOLOGICAL STREAM EMPLO

	Habitat		Condition	Category	
	Parameter	Optimal	Suboptimal	Marginal	Poor
	Epifaunal Substrate/ Available Cover	Greater than 50% of substrate favorable for epifaunal colonization and fish cover, mix of snags, submerged logs, undercut banks, cobbie or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).	30-50% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).	10-30% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or temoved.	Less than 10% stable habitat; lack of habitat is obvious; substrate unstable or lacking.
rech	SCORE	20 19 18 17 16	15 14 13 12 (11)	10 9 8 7 6	5 4 3 2 1 0
Parameters to be evaluated in sampling reach	2. Pool Substrate Characterization	Mixture of substrate materials, with gravel and firm sand prevalent; root mats and submerged vegetation common.	Mixture of soft sand, mud, or clay; mud may be dominant; some root mats and submerged vegetation- present.	All mud or clay or sand bottom; little or no root mat; no submerged vegetation.	Hard-pan clay or bedrock; no coot mat or vegetation.
water	SCORE	20 19 18 17 16	15 14 13 12/11	10 9 8 7 6	5 4 3 2 1 0
rs to be eval	3. Pool Varisbility	Even mix of large- shallow, large-deep, small-shallow, small-deep pools present.	Majority of pools large- deep; very few shallow.	Shallow pools much more prevalent than deep pools.	Majority of pools small- shallow or pools absent.
l se l	SCORE	20 19 18 17 16	15 14 13 12 11	10 9 (8) 7 6	5 4 3 2 1 0
Param	4. Sediment Deposition	Little or no enlargement of islands or point bars and less than <20% of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 20-50% of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel, sand or fine sediment on old and new bars; 50-80% of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; more than 80% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.
1	SCORE	20 19 18 17 16	15 14 13 12 11	10 9 (8) 7 6	5 4 3 2 1 0
	5. Channel Flow Status	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.	Water fills >75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.
\vdash	SCORE	20 19 (18) 17 (196)	- 1,5 - 1,4 - 1,3 - 1,2 - 1,1	10 9 8 / 6	3 4 3 2 1 0

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (BACK)

	Habitat		Condition	Category	
1	Parameter	Optimal	Suboptimal	Marginal	Poor
9	6. Channel Alteration	Channelization or dredging absent or minimal; stream with normal pattern.	Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e., dredging, (greater than past 20 yr) may be present, but recent channelization is not present.	Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.	Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed emirely.
i '	SCORE	20/ 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
samping reach	7. Channel Sinuosity	The bends in the stream increase the stream length 3 to 4 times longer than if it was in a straight line. (Note - channel braiding is considered normal in coastal plains and other low-lying areas. This parameter is not easily rated in these areas.)		The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.	Channel straight; waterway has been channelized for a long distance.
	SCORE	20 19 18 17 16	(13 12 11)	10 9 8 7 6	5 4 3 2 1 0
Parameters to be evaluated broader than	8. Bank Stability (score each bank)	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30- 60% of bank in reach has areas of erosion; high erosion potential during floods.	Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.
be eva	SCORE(LB) SCORE(RB)	Left Bank 10 9 Right Bank 10 9	7 6	5 4 3	2 1 0
Parameters t	9. Vegetative Protection (score each bank) Note: determine left or right side by facing downstream.	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or norwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.	potential plant stubble beight remaining.	50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.	Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.
1	SCORE(LB)	Left Blank 1079	8 7 6	5 4 3	2 1 0
1	SCORE(RB)	Right Bank (10) 9	8 7 <u>6</u>	5 4 3	2 1 0
	16. Riparian Vegetative Zone Width (score each bank riparian zone)	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns. or crops) have not impacted zone.	Width of riparian zone 12- 18 meters; human activities have impacted zone only minimally.	Width of riperian zone 6- 12 meters; human activities have impacted zone a great deal.	Width of riparian zone <6 meters: little or no riparian vegetation due to human activities.
	SCORE (LB)		8 7 6	5 4 3	2 1 0
				 	
	SCORE(LB) SCORE(RB)	Left Bank (10) 9 Right Bank (10) 9	8 7 <u>6</u> 8 7 6	5 4 3	2 1 0 2 1 0

Total Score <u>/49</u>

A-10 Appendix A-1: Habitat Assessment and Physicochemical Characterization Field Data Sheets - Form 3

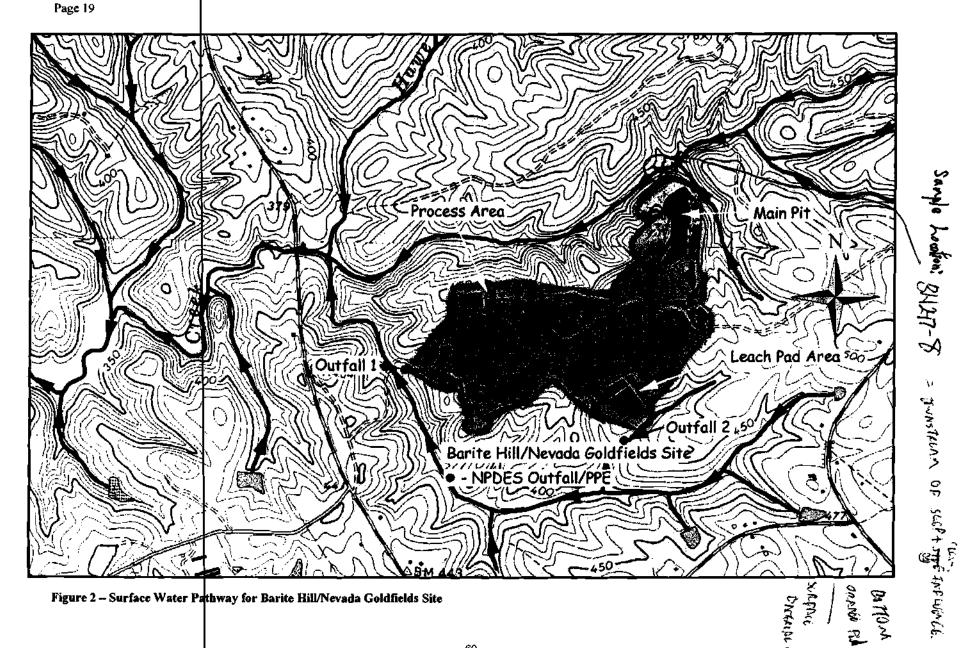
BENTHIC MACROINVERTEBRATE FIELD DATA SHEET

	STREAM NAME	_	LOCATION BA2-17-7				
	STATION#	RIVERMILE	STREAM CLASS				
695	LAT	LONG	RIVER BASIN				
,	STORET#		AGENCY EA	21/PW/REDC			
	INVESTIGATORS	R. HONRY 1 C. 11	اعالا سرا سلمدر				
	FORM COMPLETED		DATE 8/21/6	7 REASON FOR SURVE	since emilial		
	HABITAT TYPES	Indicate the percentage of Octobie 10° % OSTO Submerged Macrophytes	ag9% 🗆 🗆	present Vegetated Banks 130	nd		
	SAMPLE	Gear used 🕻 D-frame	□ kick-net	O Other			
	COLLECTION	How were the samples col		ding Ofrom bank Ofro	n boat		
		Indicate the number of ja Cobble 75 © Si Submerged Macrophytes	nags Ø	Sar D Other (CLAY schedow) なる			
	GENERAL COMMENTS	pal Upstelk	observation to	elalacty low descrit Laborate for habitat Chan-in	inna WI ypacTed),		
				, 1 = Rare, 2 = Common, 3= A Slimes	0 1 2 3 4		
	Filamentous Algae	0 1	2 3 4	Macroinvertebrates	0 1 2 3 4		
	Macrophytes	0 1	2 3 4	Fish	<u> (Ø) 1 2 3 4</u>		
	FIELD OBSERVATIONS OF MACROBENTHOS Indicate estimated abundance: 0 = Absent/Not Observed, 1 = Rare (1-3 organisms), 2 = Common (3-9 organisms), 3= Abundant (>10 organisms), 4 = Dominant (>50 organisms)						
	Porifera	0 1 2 3 4 Ani	soptera	0 1 2 3 4 Chironomida	e 0 1 2 3 4		
	Hydrozoa		_	0 t 2 3 4 Ephemeropte	ra 0 1 2 <u>(3</u>) 4		
	Platyhelminthes		-	0 1 2 3 4 Trichoptera	0 1 2 3 4		
	Turbellaria		eoptera	0 (1) 2 3 4 Other	0 1 2 3 4		
	Hirudinea	,		0 1 2 3 4			
	Oligochaeta			0 1 2 3 4 0 0 1 2 3 4			
	√Amphipoda	~~_	· .	0 1 2 3 4	l		
	Decapoda			0 1 2 3 4			
	Gastropoda			0 1 2 3 4			
	Bivalvia			0 1 2 3 4			
				0 (1) 2 3 4			

Rapid Bioassessment Protocols For Use in Streams and Wadeable Rivers: Periphyton, Benthic Macroinvertebrates, and Fish, Second Edition - Form 1

FINAL DRAFT

Barite Hill/Nevada Goldfields SCD 987 597 903



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PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET (BACK)

WATERSHED FEATURES	Predominant Surrounding Landuse Connectial Clied/Pasture Industrial Agricultural Clied/Pasture Other Residential	Local Watershed NPS Pollution No evidence
RIPARIAN VEGETATION (18 meter buffer)		ont species present Graises O'Herbaccous
INSTREAM FEATURES	Estimated Reach Length Estimated Stream Width Sampling Reach Area Area in km² (m²x1000) Estimated Stream Depth Surface Velocity (at thalweg)	Canopy Cover Partly open
LARGE WOODY DEBRIS A O	LWDm² Sor~6 SNAUS / E Density of LWDm²/km² (LWD/ reac	
AQUATIC VEGETATION	Indicate the dominant type and record the domin Rooted emergent Rooted submergent Attached Algae dominant species present Portion of the reach with aquatic vegetation	☐ Rooted floating ☐ Free floating
WATER QUALITY	Temperature 8.5 °C Specific Conductance 2.1.5 Dissolved Oxygen 48.5 8.13 mg/L pH 2.18 Tembidity 201 (50) WQ Instrument Used YS L	Water Odors Normal/None Sewage Petroleum Chemical Fishy Other Water Surface Oils Globs Flecks Slick Glober Globs Flecks None Other Turbidity (if not measured) Clear Globs Turbid Opaque Stained Other
SEDIMENT/ SUBSTRATE	Odors A Normal	Deposits Sludge Sowdust Paper fiber Sand Relief shells Grother Jones of Geophy embedded, are the undersides black in color? Yes Ja No

INC	ORGANIC SUBSTRATE (should add up to		ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)					
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area			
Bedrock		10	Detritus	sticks, wood, coarse plant materials (CPOM)	,			
Boulder	> 256 mm (\0")	-10	├──	materials (CPO(VI)	10			
Cobble	64-256 mm (2.5"-10") (1976 6V	Muck-Mud	black, very fine organic (FPOM)	7.			
Gravel	2-64 mm (0.1"-2.5")		l	(From)	20			
Sand	0.06-2mm (gritty)		Marl	grey, shell fragments				
Silt	0.004-0.06 mm							
Clay	< 0.004 mm (slick)	20	1	1				

70]. ંસી (

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (FRONT)

STREAM NAME		LOCATION BNZ47	-8
STATION #	RIVERMILE	STREAM CLASS	
PS PLAT	LONG	RIVER BASIN	
STORET#		AGENCY ELT/POLINI	dife REAC
INVESTIGATORS	A. LKNLY, C.	GUDMAN M. MOW/S.	ASILINES
FORM COMPLETED		DATE 17/20 AN PM	REASON FOR SURVEY SMEAN ININCI

	Habitat		Condition	Category	
	Parameter	Optimal	Suboptimal	Marginal	Poor
	Epifaunal Substrate/ Available Cover	Greater than 50% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobbie or other stable habitat and at stage to allow full colonization potential (i.e., loga/snags that are not new fall and not transient).	30-50% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfull, but not yet prepared for colonization (may rate at high end of scale).	10-30% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.	Less than 10% stable habitat; lack of habitat is obvious; substrate unstable or lacking.
] 3	SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 9
Parameters to be evaluated in sampling reach	2. Poel Substrate Characterization	Mixture of substrate materials, with gravel and firm sand prevalent; root mats and submerged vegetation common.	Mixture of soft sand, mud, or clay; mud may be dominant; some root mats and submerged vegetation present.	All mud or clay or sand bottom; little or no root mat; no submerged vegetation.	Hard-pan clay or bedrock; no root mat or vegetation.
Į ž	SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 (7) 6	5 4 3 2 1 0
ers to be eval	3. Pool Variability	Even mix of large- shallow, large-deep, small-shallow, small-deep pools present.	Majority of pools large- deep; very few shallow.	Shallow pools much more prevalent than deep pools.	Majority of pools small- shallow or pools absent.
ğ	SCORE	20 19 18 17 16	15 14 13 12 11	10 9(8) 7 6	5 4 3 2 1 0
Para	4. Sediment Deposition	Little or no enlargement of islands or point bars and less than <20% of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 20-50% of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel, sand or fine sediment on old and new bars; 50-80% of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; more than 80% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.
1	SCORE	20 19 18 17 16	15 14 (13) 12 11	10 9 8 7 6	5 4 3 2 1 0
	5. Channel Flow Status	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.	Water fills >75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.
\perp _	SCORE	20 19 18 17 (16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0

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HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (BACK)

	Habitet		Condition	Category			
	Parameter	Optimal	Suboptimal	<u>Marginal</u>	Poor_		
	6, Channel Alteration	Channelization or dredging absent or minimal; stream with normal pattern.	Some channelization present, usually in areas of bridge abuments; evidence of past channelization, i.e., dredging, (greater than past 20 yr) may be present, but recent channelization is not present.	Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.	Banks shored with gabion or coment; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely.		
	SCORE	20 19 18 17 16	18 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0		
tyling reach	7. Channel Sinuosity	The bends in the stream increase the stream length 3 to 4 times longer than if it was in a straight line. (Note - channel braiding is considered normal in coastal plains and other low-lying areas. This parameter is not easily rated in these areas.)	The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.	The bends in the stream increase the stream length I to 2 times longer than if it was in a straight line.	Channel straight; waterway has been channelized for a long distance.		
	SCORE	20 19 18 17 16	15 14 13 (12) 11	10 9 8 7 6	5 4 3 2 1 0		
farameters to be evaluated broader than sampling reach	8. Bank Stability (score each bank)	Banks stable; evidence of erosina or bank failure absent or minimal; little potential for future problems. <5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30- 60% of bank in reach has areas of erosion; high erosion potential during floods.	Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.		
to be evi	SCORE(LB) SCORE(RB)	Left Bank 10 (9) Right Bank 10 (9)	8 7 6 8 7 6	5 4 3 5 4 3	2 1 0 2 1 0		
Parameters	9. Vegetative Pretection (score each bank) Note: determine left or right side by facing downstream.	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.	70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.	50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.	Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.		
	SCORE (LB) SCORE (RB)	Left Bank (10) 9 Right Bank (10) 9	8 7 6 8 7 6	5 4 3	2 1 0 2 1 0		
	10. Riparian Vegetative Zone Width (score each bank riparian zone)	Width of ripariaa zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted zone.	Width of riparian zone 12- 18 meters; human activities have impacted zone only minimally.	Width of riparian zone 6- 12 meters; human activities have impacted zone a great deal.	Width of riparian zone <6 meters: little or no riparian vegetation due to human activities.		
	SCORE(LB)	Left Bank (10) 9	8 7 6	5 4 3	2 1 0		
Į.	SCORE(RB)	Right Bank 10 9	8 7 6	5 4 3	2 1 0		

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BENTHIC MACROINVERTEBRATE FIELD DATA SHEET

	STREAM NAME		LOCATION BH247	- \$		brack				
	STATION#	RIVERMILE	STREAM CLASS							
5-1	LAT	LONG	RIVER BASIN							
	STORET#		AGENCY GRI/FISHW	Who loar		٦				
	INVESTIGATORS	R. Aenra /C. bu	sommy M. Nigro/S. Frederich	LOT NUMBER		7				
	FORM COMPLETED	- ,,	DATE 3/21/01 TIME @ PM	REASON FOR SURVEY						
	HABITAT TYPES			Banks%						
,	SAMPLE COLLECTION	Gear used OD-frame How were the samples of J. Cobble OS Submerged Macrophyte	ollected? □ wading □ abs/kicks taken in each habitat Snags □ Vegetated	from bank						
	GENERAL COMMENTS	No	B6N/NOS	LV6D NJ1	50 v 41 Å v					
		İ	000	101/	SAMOCOU	i				
	•	LISTING OF AQUATI								
	Indicate estimated		C BIOTA	e, 2 = Common, 3= Abi	undant, 4 =	4				
	Indicate estimated Dominant	t abundance: 0 - Abse	C BIOTA nt/Not Observed, 1 - Rare 2 3 4 Slimes	e, 2 = Common, 3= Abi	undant, 4 =	4 4				

FIELD OBSERVATIONS OF MACROBENTHOS

Indicate estimated abundance: 0 = Absent/Not Observed, 1 = Rare (1-3 organisms), 2 = Common (3-9 organisms), 3 = Abundant (>10 organisms), 4 = Dominant (>50 organisms)

	Porifera	0	1	2	3	4	Anisoptera	0	ī	2	3	4	Chironomidae	0	1	2	3	4
\nearrow	Hydrozoa	0	1	2	3	4	Zygoptera	0	ţ	2	3	4	Ephemeroptera .	0	1	2	3	4
'	Platyhelminthes	0	1	2	3	4	Hemiptera	0	1	2	3	4	Trichoptera	0	1	2	3	4
ł	Turbellaria	0	l	2	3	4	Coleoptera	0	1	2	3	4	Other	0	1	2	3	4
1	Hirudinea	0	1	2	3	4	Lepidoptera	0	1	2	3	4						
1	Oligochaeta	0	l	2	3	4_	Sialidae	0	L	2	3	4						_
_	180poda	0	1	2	3	4	Corydalidae	0	1	2	3	4						
- 1	Amphipoda	0	1	2	3	4	Tipulidae	0	1	2	3	4						
	Decapoda	0	1	2	3	4	Empididae	0	1	2	3	4						
	Gastropoda	0	1	2	3	4	Simuliidae	0	1	2	3	4						
	Bivalvia	0	1	2	3	4	Tabinidae	0	1	2	3	4	ļ					

None

FINAL DRAFT

Barite Hill/Nevada Goldfields SCD 987 597 903 JUST VPS READ OF MEGTINE WITH HAWES CREEK

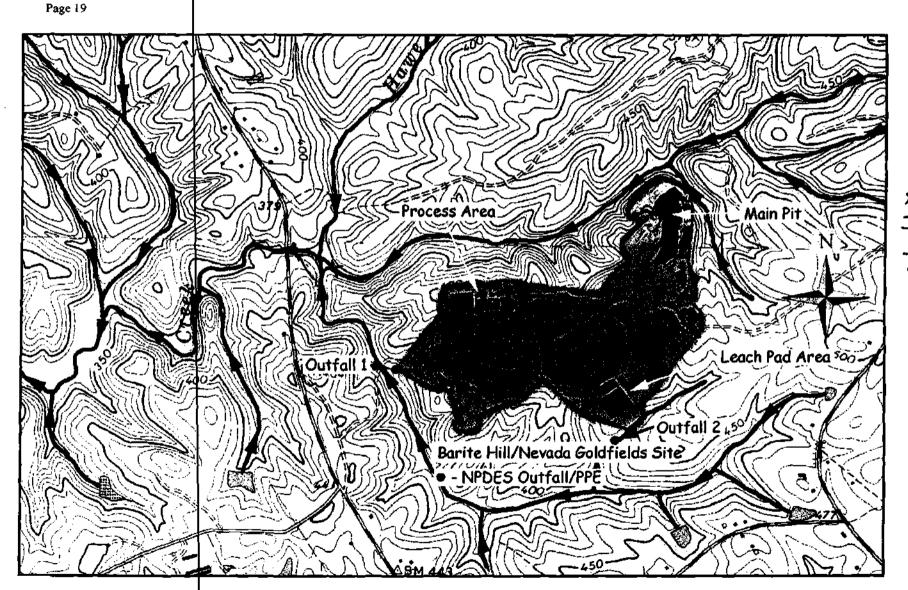


Figure 2 - Surface Water Pathway for Barite Hill/Nevada Goldfields Site

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET (FRONT)

	TO MERINEN TALLS	LOCATION BH	J 1247-17	US 1 BROTALAM (25 25 M) from A
	ONG	STREAM CLASS RIVER BASIN		
STORET #		AGENCY 627		
	ACNRY /M. NELL	/ C. GWARAN	15. FREDURICES	
FORM COMPLETED BY	flusman_	DATE 3/27/67 TIME 3:00	_ AM & REA	son for survey & Idlifical Anna In
WEATHER CONDITIONS		(heavy rain) (steady rain) (statermittent) (Past 24 Has the hours Yes Air Ter	ere been a heavy rain in the last 7 days? (FNo mperature 27 °C (637/MAT61)
SITE LOCATION/MAP	Draw a map of the sit	and indicate the s	areas sampled (or a	ittach a photograph)
	Jones J.		71.66, 3161 /MESS	DEANOBAR BANK
STREAM—CHARACTERIZATION	Stream Subsystem Perennial O Int Stream Origin O Glacial O Non-glacial montan	ermittent Tidal	Catch	a Type water □ Waπnwater ment Areakm²

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET (BACK)

WATERS! FEATURE		Predomi Di-Forest Di-Field/I Di-Agrica Di-Reside	iltural 🔼 Other	cial	Local Watershed NPS P No evidence 2 Some Obvious sources Local Watershed Brosk U None 12 Moderate	potential sources	
RIPARIAI VEGETA (18 meter	N FION buffer)		the dominant type and Sh sh at species present <u>6</u> 3			baceous	
INSTREA FEATURE		Estimate Samplia Area in Estimate	ed Reach Length ed Stream Width g Reach Area skm² (m²x1000) 6 Stream Depth Velocity veg) SWAL REAL REAL		Canepy Cover Partly open Partly Partly open Partly High Water Mark Proportion of Reach Re Morphology Types Riffle 4 % Pool 10 % Channelized Pyes Dran Present Q Yes	I_m r- care	
LARGE V DEBRIS	VOODY	LWD Density	<i>Jo</i> m ³ of LWD5m	² /km² (LWD/ :	reach area)		
AQUATIO VEGETA	TION	□ Roote □ Floati domina	ng Algae □ At	oted submerge tached Algae /ONS	nt	C) Free floating	
WATER	WATER QUALITY Temperatur 21. 740 C Specific Conductance 0. 54. Dissolved Oxygen 91.99. pH 4.04 Turbidity 0.9 NTU WQ Instrument Used				Water Surface Oils	Globs G Flecks	
SEDIMEN SUBSTRA		Odors O Norm O Chem O Other Oils O Abser	ical Cl Anaerobic	Petroleum	Looking at stones which	□ Paper fiber ■ Sand Other	
INC	4-U-a	STRATE	COMPONENTS	ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)			
Substrate Type					Characteristic	% Composition in Sampling Area	
Bedrock				Detritus	sticks, wood, coarse plant materials (CPOM)	5%	
- Doulder	> 256 mm (10°)		5 /4				
Cobble	64-256 mm (2.5	"-10")	5%	Muck-Mud	black, very fine organic (FPOM)	ļ	
Gravel	l 2-64 mm (0.1"-2.5")		159.				
Sand	0.06-2mm (gritt	y)	70%	Marl	grey, shell fragments		
Silt	0.004-0.06 ந ா			!	}	}	
Clay	< 0.004 mm (sl	ick)	5 %	<u> </u>		<u> </u>	

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (FRONT)

1	STREAM NAME		LOCATION LAZIZ-17_
	STATION#	RIVERMILE	STREAM CLASS
6857	LAT	LONG	RIVER BASIN
0.0	STORET#		AGENCY BRT REAGIFAW
	INVESTIGATORS	C. GUSTAN R. A	GNAY M MIGRO IS, FREGERICAL
	FORM COMPLETED B	Y C. GWSMAN	TIME 3/10 AM (M) REASON FOR SURVEY O(0) 1/16 / SHAPE EAPPE

	Habitat		Condition	Category	
ŀ	Parameter	Optimal	Suboptimal	Marginal	Peer
ę,	1. Epifaunal Substrate/ Available Cover	Greater than 50% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).	30-50% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).	10-30% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.	Less than 10% stable habitat; lack of habitat is obvious; substrate unstable or lacking.
8	SCORE	29 19 18 17 16	15 14 13 12 11	10 9 (8) 7 6	5 4 3 2 1 0
be evaluated in sampling reach	2. Pool Substrate Characterization	Mixture of substrate materials, with gravel and firm sand prevalent, root mats and submerged vegetation common.	Mixture of soft sand, mud, or clay; mud may be dominant; some root mats and submerged vegetation present.	All mud or clay or sand bottom; little or no root mat; no submerged vegetation.	Hard-pan clay or bedrock; no root mat or vegetation.
inted	SCORE	20 19 18 17 16	15 14 13 12 11	10 9 (8) 7 6	5 4 3 2 1 0
rs to be eval	3. Pool Variability	Even mix of large- shallow, large-deep, small-shallow, small-deep pools present.	Majority of pools large- deep; very few shallow.	Shallow pools much more prevalent than deep pools.	Majority of pools small- shallow or pools absent,
Dete	SCORE	20 19 18 17 16	15 14 13 12 11	10 9 (8) 7 6	5 4 3 2 1 0
Parameters to	4. Sediment Deposition	Little or no enlargement of islands or point bars and less than <20% of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 20-50% of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel, sand or fine sediment on old and new bars; 50-80% of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; more than 80% of the bottom changing frequently; pool almost absent due to substantial sediment deposition.
	SCORE	20 19 18 17 16	15 14 (3 12 11	10 9 8 7 6	5 4 3 2 1 0
	5. Channel Flow Status	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.	Water fills >75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.
_	SCORE	20 19 18 17 16	(15) 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0

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BH247-17
HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (BACK)

1	Habitat		Condition	Category	
	Parameter	Optimal	Suboptimal	Marginal	Poor
	6. Channel Alteration	Channelization or dredging absent or minimal; stream with normal pattern.	Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e., dredging, (greater than past 20 yr) may be present, but recent channelization is not present.	Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.	Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted instream habitat greatly altered or removed entirely.
Ĺ	SCORE	20 19 18 17 16	15 14 13 12(11)	10 9 8 7 6	5 4 3 2 1 0
	7. Channel Sinuosity	The bends in the stream increase the stream length 3 to 4 times longer than if it was in a straight line. (Note - channel braiding is considered normal in coastal plains and other low-lying areas. This parameter is not easily rated in these areas.)	The bends in the stream increase the stream length. I to 2 times longer than if it was in a straight line.	The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.	Channel straight; waterway has been channelized for a long distance.
Ļ	SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
	8. Bank Stability (score each bank)	Banks stable; evidence of crosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30-60% of bank in reach has areas of erosion; high erosion potential during floods.	Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.
	SCORE(LB)	Left Bank 10 9	8 7 6	5 (4) 3	2 1 0
	SCORE(RB)	Right Bank 10 9	8 7 (6)	5 4 3	2 1 0
	9. Vegetative Protection (score each bank) Note: determine left or right side by facing downstream.	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or noawoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.	70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.	50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation contraon; less than one-half of the potential plant stubble height remaining.	Less than 50% of the streambank surfaces covered by vegetation; disruption of streambani vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.
	SCORE (LB)	Left Bank 10 9	Ø 7 6	5 4 3	7 1 0
	SCORE(RB)	Right Bank 10 9	(8) 7 6	5 4 3	2 1 0:
	10. Riparian Vegetative Zone Width (score each bank riparian zone)	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted zone.	Width of riparian zone 12- 18 meters; human activities have impacted zone only minimally.	Width of riparian zone 6- 12 meters; human activities have impacted zone a great deal	Width of riparian zone meters: little or no riparian vegetation due human activities.
١	SCORE(LB)	Left Bank (67) 9	8 7 6	5 4 3	2 1 0
1	SCORE(RB)	Right Bank 10, 9	8 7 6	5 4 3	2 1 0

Total Score //9

557/9

BENTHIC MACROINVERTEBRATE FIELD DATA SHEET

STATION # LAT STORET # INVESTIGATORS FORM COMPLETE	RIVERMILE LONG	STREAM CLAS	BA247-17 ss						
LATSTORET# INVESTIGATORS	LONG								
STORET# INVESTIGATORS									
INVESTIGATORS	10 K 40 T/	AGENCY E		Āc	_				
	- ICH BINAY I will	s welen C. Govern		T NUMBER					
LOKIN COMPLETE				ASON FOR SURVEY					
	C. GWSMA	DATE 3/27 TIME 3/15	- M 6 81	oleykal stucan	IMPAC	7			
HABITAT TYPES	Indicate the percentag Cobble % Submerged Macroph	□ Snags%	e present U Vegetated Banks_ U Other (% Q Sand	<u>%</u> -				
SAMPLE	Genr used Define Dkick-net Other								
COLLECTION	How were the samples collected? A wading O from bank O from boat								
	· ·								
Indicate the number of jaba/kicks taken in each habitat type. Cobble So Sangs Vegetated Banks Sand 50									
	 Submerged Macroph 	ytes	Other ()					
GENERAL	PALO	MULASITY.	L Allains 1	2 INDIVIOUALS	41.7.	. \			
COMMENTS	7001	PINORESTIT	Quantifa	T TWOMINGHER	tot b	L)			
		. 1	-W						
	PIDL	STREAM QUALI	/ [~						
Dominant	d abundance: 0 = Ah								
	(")			1	_		3 4		
_	\ /						3 4		
Macrophytes	<u>_</u>	1 2 3 4	Fish		<u> </u>	<u> 2</u>	3 4		
	0	1 2 3 4 1 2 3 4 1 2 3 4	Slimes Macroinverte		Ø) 1 0 <i>()</i>) 0) 1	2 2			

Rapid Bioassessment Protocols For Use in Streams and Wadeable Rivers: Periphyton, Benthic Macroinvertebrates, and Fish, Second Edition - Form 1

FINAL DRAFT

Barite Hill/Nevada Goldfields SCD 987 597 903 Page 19

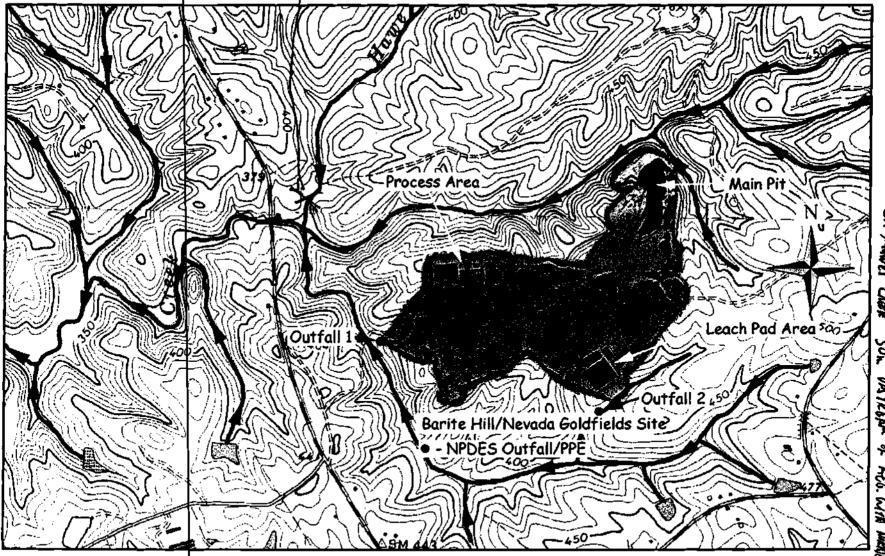


Figure 2 - Surface Water Pathway for Barite Hill/Nevada Goldfields Site

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PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET (FRONT)

- [STREAM NAME HIWES CALL		LOCATION A	#247-18			
ţ		VERMILE	STREAM CLASS				
695 -	LATLO	NG	RIVER BASIN				
ĺ	STORET #		AGENCY 617/64C/RV				
Ï	INVESTIGATORS C. G	USSMAND. R. AE					
	FORM COMPLETED BY	G. Gussman					
	WEATHER CONDITIONS SUMM, SUM CEAN CAUGE	rain (shower %0 %c	(heavy rain) ((steady rain) (Past 24 Has there been a heavy rain in the last 7 days? Yes BNo Air Temperature Z7 ° C Est (mate) Other			
	SITE LOCATION/MAP	Draw a map of the sit		The sampled (or attack a photograph)			
	STREAM CHARACTERIZATION	Stream Subsystem Stream Origin Glacial Non-glacial montan Glawmp and bog	D Spring-fed Mixture of a	Catchment Area km²			

FEATURE	Š	Forest Field/P	iltural 🚨 Other 🔃		No evidence Some	potential sources
		Q Reside	ntial		Local Watershed Erosk ONone O Moderate	D Heavy
RIPARIAN VEGETAT (18 meter)	ontlet) (ION	-	the dominant type and U Shu it species present <u>CA</u>	. 1		taceous EPTOAY
INSTREAL FEATURE		Estimate Samplin Area In I Estimate	ed Stream Width g Reach Area km² (m²x1000) ed Stream Depth Velocity	m /m /	High Water Mark 1. Proportion of Reach Ro	Shaded © Shaded S_m presented by Stream Run No
LARGE W DEBRIS	/OODY	LWD Density	of LWDm	²/km² (LWD / 1	MINIMOL, OCCANINAL	"LOG"
AQUATIC VEGETAT	ÍON	O Roote O Floatir dominar	the dominant type and denergem Rong Algae Attention Algae Attention to species present NON of the reach with aquation	tached Algae VIS /DL	nt Q Rooted floating	O Free floating
WATER	QUALITY	Specific Dissolve pH 6	ature Z4.03 ° C Conductance (). [63] d Oxygem 86.7% 33 ty ().6444 trument Used 1.77	ns/cn	Water Surface Oils	Globs 🔾 Flecks
SEDIMEN SUBSTRA		Oders ONorm Other Other Oils Absen	al Sewage ical Anaerobic tt Slight Moderat	D Petroleum D None Profit	Looking at stones which are the undersides blac	Paper fiber Sand Other h are not deeply embedded, k in color?
INC		STRATE (COMPONENTS 90%)		ORGANIC SUBSTRATE C	
Substrate Type	Diamet	ėr	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			52	Detritus	sticks, wood, coarse plant	79
Boulder	> 256 mm (10"))		<u> </u>	materials (CPUM)	
Cobble	64-256 mm (2.5	i"-10") ⁷		Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-	2.5")	5%	<u> </u>		
Sand	0.06-2mm (gritt	y)	90%	Mari	grey, shell fragments	
Silt	0.004-0.06 mm]	}	1
Clay	< 0.004 mm (sli	ick)				

HABITAT ASSESSMENT FIELD DATA SHEET-LOW GRADIENT STREAMS (FRONT)

- 1	STREAM NAME		LOCATION BH247-18
1	STATION #	RIVERMILE	STREAM CLASS
(NS 71)	LAT	LONG	RIVER BASIN
	STORET#		AGENCY ERT/HAC/NU
	INVESTIGATORS	RICH HENRY M	THE HIGH (C. GUICAN)
	FORM COMPLETED I	C. GWSAA	TIME 3:25 AM BANGE STREAM TO BELLEN TO BELLE TO BELLEN TO BELLE TO BELLEN TO BELLEN TO BELLE TO BELLEN TO BELLE TO BELLE TO BELLE TO BELLE TO BELLE TO BELLE

	Habitat		Condition	Category	
	Parameter	Optimal	Suboptimal	Marginal	Poor
	t. Epifaunat Substrate/ Available Cover	Greater than 50% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).	30-50% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).	10-30% mix of stable habitat; habitat availability less than desirable; substrate frequently disambed or removed.	Less than 10% stable habitat; lack of habitat is obvious; substrate unstable or lacking.
each	SCORE	20 19 18 17 16	15 14 13 12 (1)	10 9 8 7 6	5 4 3 2 1 0
d in sampling reach	2. Pool Substrate Characterization	Mixture of substrate materials, with gravel and firm sand prevalent; root mats and submerged vegetation common.	Mixture of soft sand, mud, or clay; mud may be dominant; some root mats and submerged vegetation present.	All mud or clay or sand bottom; little or no root mat; no submerged vegetation.	Hard-pan clay or bedrock; no root mat or vegetation.
aster	SCORE	20 19 18 17 16	15 [4 13 12 1]	10 9 (8/ 7 6	5 4 3 2 1 0
Parameters to be evaluated in	3. Pool Variability	Even mix of large- shallow, large-deep, small-shallow, small-deep pools present.	Majority of pools large- deep; very few shallow.	Shallow pools much more prevalent than deep pools.	Majority of pools small- shallow or pools absent.
\$	SCORE	20 19 18 17 16	15 14 13 12/17	10 9 8 7 6	5 4 3 2 1 0
Pari	4. Sediment Deposition	Little or no enlargement of islands or point bars and less than <20% of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 20-50% of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel, sand or fine sediment on old and new bars; 50-80% of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; more than 80% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.
	SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
ı	5. Channel Flow Status	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.	Water fills >75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.
_	SCORE	20 19 18 17 16	/15) 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (BACK)

	Habitat		Condition	Category	
	Parameter	Optimal	Suboptimal	Marginal	Poor
	6. Channel Alteration	Channelization or dredging absent or minimal; stream with normal pattern.	Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e., dredging, (greater than past 20 yr) may be present, but recent channelization is not present.	Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.	Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely.
1	SCORE	20 19 18 (17) 16	15 [4 13 12 11	10 9 8 7 6	5 4 3 2 1 0
pling reach	7. Channel Sinuosity	The bends in the stream increase the stream length 3 to 4 times longer than if it was in a straight line. (Note - channel braiding is considered normal in coastal plains and other low-lying areas. This parameter is not easily rated in these areas.)	The bends in the stream increase the stream length I to 2 times longer than if it was in a straight line.	The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.	Channel straight; waterway has been channelized for a long distance.
	SCORE	20 19 18 17 16	15 14 13 12 11	10 (9) 8 7 6	5 4 3 2 1 0
Parameters to be evaluated broader than sampling reach	8. Bank Stability (score each bank)	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30- 60% of bank in reach has areas of crosion; high erosion potential during floods.	Unstable; many croded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has crosional sears.
be evi	SCORE(LB) SCORE(RB)	Left Bank 10 9 Right Hank 10 9	8 7 (3) (8) 7 6	5 4 <u>3</u> 5 4 3	2 1 0
Parameters :	9. Vegetative Protection (score each bank) Note: determine left or right side by facing downstream.	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.	70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.		Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.
	SCORE(LB)	Left Bank 10 (5)	8 7 6	5 4 3	2 1 0
	SCORE(RB)	Right Bank 10 /9)	8 7 6	5 4 3	2 1 0
	19. Riparian Vegetative Zone Width (score each bank riparian zone)	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not	Width of riparian zone 12- 18 meters; human activities have impacted zone only minimally.	Width of riparian zone 6- 12 meters; human activities have impacted zone a great deal.	Width of riparian zone <6 meters: little or no riparian vegetation due to human activities.
	coont (P)	impacted zone. Left Bank (6) 9			
	SCORE (LB) SCORE (RB)	Left Bank (0 9 Right Bank (0) 9	8 7 6 8 7 6	5 4 3	2 1 0
Щ.	(VD)	Treigne marrie In) a	, ,	, , ,	2 1 0

APPENDIX A
STREAM DATA SHEETS
BARITE HILL GOLD MINE
TRIP REPORT
JUNE 2007

BENTHIC MACROINVERTEBRATE FIELD DATA SHEET

STREAM NAME					LOC	A 1 101	N BA	ソムイ	7-,	18								
STATION #	RIVER	MILE	_	_			CLASS									_		
LAT	LONG			=	RIVE	R BA	SIN	_			_				_		_	_
STORET#				=+			6A1/	FJ	W	Tu	AC	, -		_				
INVESTIGATORS	A 13	CHAT /									_	UMBER					_	-
FORM COMPLETED	RY	Gusa		- 1	DAT	E <i>J/2</i> E <i>3;</i> ;	7/67		(Fa	_[R	EAS	on for su	RVE	124	M ZA	VI (7	_
HABITAT TYPES	Ci Cobb	e the percole %	, i	Sna		%	t type pi	Veget	tated	Bank (574	₩.	aln b	Sand S	<u>}</u> 0	<u>-</u>			
SAMPLE	Gear u	sed tD	-fram	 E	ikick	oct			Other		7	CATULAT)				_		_
COLLECTION	1	•												_				
	Indicat	ere the same the num le norgod Ma	- iber o	fjabs O Sna		y take		th hal	bitat	Banj		_	Sand_					
GENERAL COMMENTS	L	GAY .	5 AM	or .														
1	Ì				4	3U/	200	~ <i>6</i>	OU	W	74	A BUND A	NGE.					
QUALITATIVE I							erved,	1=1	Rar	e, 2	= C	ommon, 3	= Abu	nda	nt,	4-		_
Indicate estimated Dominant			- Ab	sent		Obse	erved,		Rar		= C	ommon, 3	——Abu	nda	nt,	4=		
Indicate estimated Dominant Periphyton			Ab 0	sent.	/Not	Obse	erved,	Sli	imęs		_		—————————————————————————————————————	nda:	0	4=	2	
Indicate estimated Dominant			- Ab	sent	/Not	Obse	erved,	Sli	imes acro		_		= Abu	nda		1 1		
Periphyton Filamentous Algae Macrophytes FIELD OBSERV Indicate estimated	ATIONS	OF MA	O O O CRO	i 2 i 2 i 2 bsen	/Not 3 3 3 NTH	4 4 4 4 OS	erved,	Sli Ma Fis	imes acroi sh	inver	tebr	ates	2=0	Come	0 0	1 1	2 2 2	
Periphyton Filamentous Algae Macrophytes FIELD OBSERV Indicate estimated	ATIONS	OF MA	O O O CRO	l 2 1 2 1 2 DBE	/Not 3 3 3 NTH t/Not	4 4 4 4 4 OS t Obs	erved,	Sli Ma Fis 1 = (>10	Rai	inver	-3 or	rganisms), 4 = Dom	2 = (inant	Come	0 0 0	1 1	2 2 2 2	
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Periphyton Filamentous Algae Macrophytes FIELD OBSERV Indicate estimated Porifera Hydrozoa Platyhelminthes	ATIONS I abunds 60 0 1 0 1	3 OF MA ance: 0 0	O O O O O O O O O O O O O O O O O O O	l 2 l 2 l 2 l 2 l Sent	/Not 3 3 3 NTH hypoten ptera iptera	Obse 4 4 4 4 COS 1 Obs Abu	orved, ndant (0 0	Sli Ma Fis	Ran 2 2 2	re (1 ganis	-3 or ms)	rganisms), 4 = Dom Chironou Ephement	2 = C inant : nidae optera	Come	0 0 0	1 1	2 2 2 2 9 uismi 2 2 2	s
Periphyton Filamentous Algae Macrophytes FIELD OBSERV Indicate estimated Porifera Hydrozoa Platyhelminthes Turbellaria	ATIONS I abunda 6/0 0 1 0 1 0 1	3 OF MA ance: 0 0	CRO O O CRO CRO A CRO A A A A A	l 2 l 2 l 2 DBE	/Not 3 3 3 NTH t/Not), 3= opten optera iptera	Obse 4 4 4 4 4 4 COS t Obs Abu	orved, ndant () 0 0 0	Shi Ma Fisa (>10	Ran 2 2 2 2	re (1 ganis	-3 or ms)	rganisms), 4 = Dom Chironou Ephemen Trichopte Other	2 = C inant : nidae optera	Come	0 0 0	1 1	2 2 2 2	ıs:
Periphyton Filamentous Algae Macrophytes FIELD OBSERV Indicate estimated Porifera Hydrozoa Platyhelminthes Turbellaria Hirudinea	ATIONS abunda 6/0 0 1 0 0	OF MA ance: 0 0	O O O O O O O O O O O O O O O O O O O	l 2 l 2 l 2 l 2 l 2 l September of the s	Not 3 3 3 NTH t/Not), 3= ptera iptera iptera	Obse 4 4 4 4 4 4 COS t Obs Abu	orved, ndant (0 0 0 0	Sii Ma Fis (>100 1 1 1 1 1 1 1 1 1	Ran 2 2 2 2 2	re (1 ganis	-3 or ms)	rganisms), 4 = Dom Chironou Ephemere Trichopte Other	2 = C inant : nidae optera	'omt	0 0 0	1 (3-1) (3-1) (3-1) (1-1	2 2 2 2 9 uismi 2 2 2 2	ıs:
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Periphyton Filamentous Algae Macrophytes FIELD OBSERV Indicate estimated Porifera Hydrozoa Platyhelminthes Turbellaria Hirudinea Otigochaeta Isopoda	ATIONS abunda	3 OF MA ance: 0 0 2 3 2 3 2 3 2 3 2 3 2 3 2 3	0 0 0 0 CR(-A)	l 2 l 2 l 2 l 2 l bsendisms Anisor Colect Lepid Cory	3 3 3 NTH t/Not), 3= ptera iptera iptera iptera iptera dalid	Obsection of the control of the cont	0 0 0 0 0 0	Sli Ma Fis (>100 1 1 1 1 1 1 1 1 1	Ran 2 2 2 2 2 2 2	3 3 3 3 3 3	-3 ooms) 4 4 4 4	rganisms), 4 = Dom Chironou Ephemen Trichopte Other	2 = C inant : nidae optera	'omt	0 0 0	1 (3-1) (3-1) (3-1) (1-1	2 2 2 2 9 uismi 2 2 2 2	s
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Periphyton Filamentous Algae Macrophytes FIELD OBSERV Indicate estimated Porifera Hydrozoa Platytelminthes Turbellaria Hirudinea Otigochaeta Isopoda Amphipoda Decapoda	ATIONS abunda 0 1 0 0	2 3 2 3 2 3 2 3 2 3 2 3 2 3 2 3 2 3 2 3	0 0 0 0 CRC A 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	l 2 l 2 l 2 l 2 l 2 l Senti	Not 3 3 3 NTH t/Not ptera iptera iptera dopte date dalidae ididae	Obsection of the control of the cont	0 0 0 0 0 0	Shi Ma Fiss (>16 1 1 1 1 1 1 1 1 1	Ran 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	3 3 3 3 3 3 3 3	-3 or ms) 4 4 4 4 4 4	rganisms), 4 = Dom Chironou Ephemere Trichopte Other	2 = C inant : nidae optera	'omt	0 0 0	1 (3-1) (3-1) (3-1) (1-1	2 2 2 2 9 uismi 2 2 2 2	
Periphyton Filamentous Algae Macrophytes FHELD OBSERV Indicate estimated Porifera Hydrozoa Platyhelminthes Turbellaria Hirudinea Oligochaeta Isopoda Amphipoda	ATIONS abunda	2 3 2 3 2 3 2 3 2 3 2 3 2 3 2 3 2 3 2 3	0 0 0 0 0 CRC A 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	l 2 l 2 l 2 l 2 l 2 l 2 l 2 l 2 l September of the septem	3 3 3 NTH t/Not), 3= opten optera iptera iptera dopte dalid lidae	Observation of the control of the co	0 0 0 0 0 0	Shi Ma Fiss (>16 1 1 1 1 1 1 1 1 1	Ran 2 2 2 2 2 2 2 2 2	3 3 3 3 3 3 3 3	-3 or ms) 4 4 4 4 4	rganisms), 4 = Dom Chironou Ephemere Trichopte Other	2 = C inant : nidae optera	'omt	0 0 0	1 (3-1) (3-1) (3-1) (1-1	2 2 2 9 uismi 2 2 2	ıs:

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FINAL DRAFT

Barite Hill/Nevada Goldfields SCD 987 597 903 Page 19

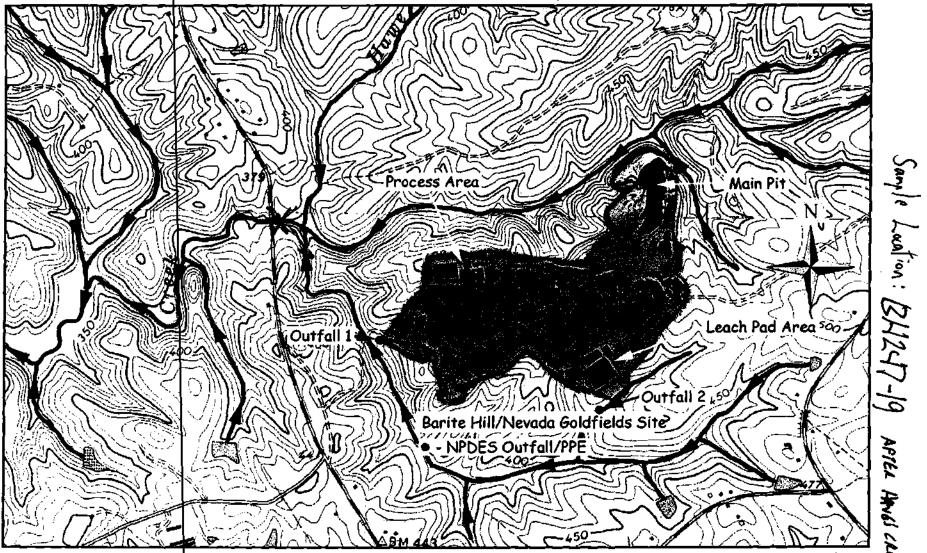


Figure 2 - Surface Water Pathway for Barite Hill/Nevada Goldfields Site

Northern

្រ	STREAM NAME ANAL	s cashe	LOCATION	BH24	7-19
ľ	·	VERMILE	STREAM CLAS		
615-	LATLO	NG	RIVER BASIN		
~ 7	STORET #		AGENCY	FR7/80	W/REAC
ĺ	INVESTIGATORS A	. HENRY /M. N	ibes / c. com	Man/ S.	FL406LIAS
{	FORM COMPLETED BY	•	DATE 3/2/10	L M (M	BILLI GICAL STALL STALL
	WEATHER CONDITIONS	Now		Past 24 hours	Has there been a heavy rain in the last 7 days?
	Bough, warn.	nin 🔾	(heavy rain) Steady rain)	0	Air Temperature 17 °C (657 mated)
	SUNLY, MINITAL WEND	%□ %c	s (intermittent) loud cover eat/surmy	<u>0</u> _%	Other
	SITE LOCATION/MAP	Draw a map of the sid	e and indicate th	areas samp	led (or attack a photograph)
		,			
		ष्टीयः	7-19		
		<i> </i>			
		1	NOTO	F . DEEP	CHANNEL (AVEA GANES)
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				†	Ex.
				7	28
				\	(3)
	STREAM CHARACTERIZATION	Stream Subsystem Referencial Office	termittent O Tid	ai	Stream Type G Coldwater
		Stream Origin Origin Origin Non-glacial montan Swamp and bog	Spring-fe Mixture of Other	d of origins	Catchment Areakm²

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WATERSE FEATURE		Predomi D Forest O Field/I O Agricu O Reside	itural 🚨 Other	cial	Local Watershed NPS P No evidence	potential sources	
RIPARIAN VEGETAT (18 meter 1		•	the dominant type and EShi at species presentG	record the doc nubs MO MI/1	minant species present O Her O Grasses IA LI OF TLEGS (OAK, B	baccous 1666h) Aerbarans han a	atay
INSTREAT FEATURE	M S	Estimate	ed Reach Length d Stream Width S g Reach Area		Canopy Cover Dearly Open Dearly Open Parily Open Dearly Open Dearly High Water Mark	shaded W.Shaded	-
		Area in		km² m	Proportion of Reach Re Merphology Types Riffle 25 % Q Paol 25 %		
		Surface (at thalv		/sec	Channelized Yes Dana Present ' Yes	© No Ø No	
LARGE W DEBRIS	УООРА	LWD Density	of LWDm	²/km² (LWD/ 1	MINIMAL LARS	g walt debeli	
AQUATIC VEGETAT	TION	☐ Roote		record the do oted submerger tached Algae	minant species present nt U Rooted floating	☐ Free floating	
		domina	at species present				
Ĺ. <u>.</u>		Portion	of the reach with aquati	ic vegetation (<u></u>		
WATER	QUALITY	Specific	ature <u>73, 7°</u> C Conductance <u>6,44</u> d Oxygen <u>¥5,5</u>			ge Chemical Other	
		pH	6.22 y 0.9		Water Surface Oils Slick Sheen S None Sother	Globs O Flecks	
		WQ Ins	trument Used // //		Turbidity (if not means Clear Slightly tu Clear Stained	red) rbid	
SEDIMEN SUBSTRA		Odors D Norm C Chem		☐ Petroleum ☐ None	Deposits Di Sludge Di Sawdust Relict shells	☐ Paper fiber ☐ Sand Other	
		Oib	n 🔾 Slight 🔾 Moderal	te 🔾 Profu	are the undersides blac	h are not deeply embedded, k in color?	
INC		STRATE of the state of the stat	COMPONENTS 00%)		ORGANIC SUBSTRATE C (does not necessarily add		
Substrate Type	Diame	ter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area	
Bedrock				Detritus	sticks, wood, coarse plant materials (CPOM)	<21/2	
Boulder	> 256 mm (10"	<u> </u>					
Cobble	64-256 mm (2.		5	Muck-Mud	black, very fine organic (FPOM)	!	
Gravel	2-64 mm (0.1"		/5	<u> </u>			
Sand	0.06-2mm (grit		<u> </u>	`Mari	grey, shell fragments	; . !	
Silt	0.004-0.06 mm	<u> </u>		j		}	

A-6 Appendix A-1: Habitat Assessment and Physicochemical Characterization Field Data Sheets - Form I

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (FRONT)

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•	_

STREAM NAME	LOCATION BH247-19
STATION # RIVERMILE	STREAM CLASS
LATLONG	RIVER BASIN
STORET#	AGENCY
INVESTIGATORS M. NILLA / L. HENRY	C. Guaran/s. Frederichi.
FORM COMPLETED BY C. GUSSINAN	TIME 400 AM & BIGING SURVEY

	Habitat		Condition	Category	
	Parameter	Optimal	Suboptimal	Marginal	Poor
	Epifaunal Substrate/ Available Cover	Greater than 50% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).	30-50% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).	10-30% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.	Less than 10% stable habitat; lack of habitat is obvious; substrate unstable or lacking.
teach	SCORE	20 19 18 17 (6)	15 14 13 12 (1)	10 9 8 7 6	5 4 3 2 1 0
d in sempling reach	2. Pool Substrate Characterization	Mixture of substrate materials, with gravel and firm sand prevalent, root mats and submerged vegetation common.	Mixture of soft sand, mud, or clay; mud may be dominant; some root mats and submerged vegetation present.	All mud or clay of said bottom; little or no reot mst; no submerged vegetation.	Hard-pan clay or bedrock; no root mat or vegetation.
unte	SCORE	20 19 18 17 16	15 14 13 12 11	10 (9) 8 7 6	5 4 3 2 1 0
Parameters to be evaluated	3. Pool Variability	Even mix of large- shallow, large-deep, small-shallow, small-deep pools present.	Majority of pools large- deep; very few shallow.	Shallow pools much more prevalent than deep pools.	Majority of pools small- shallow or pools absent.
unete	SCORE	20 19 18 17 16	15 14 13 12 11	10 /9 8 7 6	5 4 3 2 1 0
Parm	4. Sediment Deposition	Little or no enlargement of islands or point bars and less than <20% of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 20-50% of the bottom affected; alight deposition in pools.	Moderate deposition of new gravet, sand or fine sediment on old and new bars; 50-80% of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; more than 80% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.
	SCORE	20 19 18 17 16	15 14 13 12 11	10 9 6 7 6	5 4 3 2 1 0
	5. Channel Flow Status	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.	Water fills >75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.
	SCORE	20 10 19 17 16	15 14 13 12 10	70) 9 8 7 6	5 4 3 2 1 0

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (BACK)

ı	Habitat		Condition	Category	
ł	Parameter	Optimal	Suboptimal	Marginal	Poor
	6. Channel Alteration	Channelization or dredging absent or minimal; stream with normal pattern.	Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e., dredging, (greater than past 20 yr) may be present, but recent channelization is not present.	Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.	Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely.
ļ	SCORE	20 19 18 (17) 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
sempling reach	7. Channel Sinuosity	The bends in the stream increase the stream length 3 to 4 times longer than if it was in a straight line. (Note - channel braiding is considered normal in coastal plains and other low-lying areas. This parameter is not easily rated in these areas.)	The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.	The beads in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.	Channel straight; waterway has been channelized for a long distance.
	SCORE	20 19 18 17 16	15 14 /13) 12 11	10 9 8 7 6	5 4 3 2 1 0
Parameters to be evaluated broader than	8. Bank Stability (score each bank)	Banks stable; evidence of crosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30- 60% of bank in reach has areas of erosion; high erosion potential chiring floods.	Unstable; many croded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has crosional sears.
to be eve	SCORE (LB) SCORE (RB)	Left Bank 10 9°. Right Bank 10 9	(9) 7 6 (9) 7 6	5 4 3	2 1 0 2 1 0
Parameters	9. Vegetative Protection (score each bank) Note: determine left or right side by facing downstream.	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident, almost all plants allowed to grow naturally.	70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than ene-half of the potential plant stubble height remaining.	50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stabble height remaining.	Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 ceratimeters or less in average stubble height.
	SCORE(LB)	Left Bank 10 🔇	8 7 6	5 4 3	2 1 0
	SCORE(RB)	Right Bank 10 10	8 7 6	5 4 3	2] 0
	10. Riparian Vegetative Zone Width (score each bank riparian zone)	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lowns, or crops) have not	Width of riperian zone 12- 18 meters; human activities have impacted zone only minimally.	Width of riparian zone 6- 12 meters; human activities have impacted zone a great deal.	Width of riparian zone <6 meters: little or no riparian vegetation due to human activities.
	SCORE(LB)	impacted zone. Left Bank (197, 9	8 7 6	5 4 3	2 1 0
	ı,	Right Bank (0 9			

Total Score 132

84 748

BENTHIC MACROINVERTEBRATE FIELD DATA SHEET

STATION # RIVERMILE STREAM CLASS LAT LONG RIVER BASIN STORET # AGENCY FAT STREAM DIFFE FOUNDS RIVER BASIN STORET # AGENCY FAT STREAM LOT NUMBER FORM COMPLETED BY C. 6 U. J. MAN DATE 1/2/17 TIME 3-45 AM DIFFE STREAM COMPLETED BY C. 6 U. J. MAN DATE 1/2/17 TIME 3-45 AM DIFFE STREAM COMPLETED BY C. 6 U. J. MAN DATE 1/2/17 TIME 3-45 AM DIFFE STREAM COMPLETED BY C. 6 U. J. MAN DATE 1/2/17 TIME 3-45 AM DIFFE STREAM CLASS REASON FOR SURVEY BRANT REASON FOR SURVEY BRANT BRANT BRANT REASON FOR SURVEY BRANT REASON FOR SURVEY BRANT REASON FOR SURVEY BRANT REASON FOR SURVEY BRANT BRANT BRANT REASON FOR SURVEY BRANT	STREAM NAME		LOCAT	TION 11/124	<u>7-/9</u>					
AGENCY SAT STATE FOUNDATION OF AQUATIC BIOTA INVESTIGATORS C. 6 U. 3 MAN R. 16 No. 18	STATION#	RIVERMILE_	STREA	M CLASS						
INVESTIGATORS C. & U.S. MANA R. MENA R. MENA S. Finish LOT NUMBER FORM COMPLETED BY C. & U.S. MANA D. TIME 3.46 AM (2) Billedge S. STEEN SINGUEY C. & U.S. MANA D. TIME 3.46 AM (2) Billedge S. STEEN SINGUEY GLASON FOR SURVEY TIME 3.46 AM (2) Billedge S. STEEN SINGUEY GLASON FOR SURVEY REASON FOR SURVEY REASON FOR SURVEY REASON FOR SURVEY GLASON FOR SURVEY REASON FOR SURVEY REASON FOR SURVEY REASON FOR SURVEY GLASON FOR SURVEY REASON	LAT	LONG	RIVER	BASIN	ــــــــــــــــــــــــــــــــــــــ	<u> </u>				
INVESTIGATORS C. 6 10.5 man / R. RENEV / R. MERC / S. Fick of CONUMBER FORM COMPLETED BY C. 6 11.5 man / R. RENEV / REASON FOR SURVEY C. 6 11.5 man / R. RENEV / REASON FOR SURVEY C. 6 11.5 man / R. RENEV / REASON FOR SURVEY C. 6 11.5 man / R. RENEV / REASON FOR SURVEY C. 6 11.5 man / R. RENEV / REASON FOR SURVEY C. 6 11.5 man / RENEV / REASON FOR SURVEY C. 6 11.5 man / RENEV / REASON FOR SURVEY C. 6 11.5 man / RENEV / REASON FOR SURVEY C. 6 11.5 man / RENEV / REASON FOR SURVEY C. 6 11.5 man / RENEV / REASON FOR SURVEY C. 6 11.5 man / RENEV	STORET #		AGENO	CY EAT &	/4+++// /	17 1164 F	3W/16	10		
DATE 12217 TIME 3:15 AM (a) REASON FOR SURVEY BINGOIC. STREAM IMPROVED TIME 3:15 AM (b) BINGOIC. STREAM IMPROVED THE TIME 3:15 AM (c) BINGOIC. STREAM IMPROVED THE TIME 3:15 AM (c) BINGOIC. STREAM IMPROVED THE TIME THE THE THE THE TIME TH	INVESTIGATORS	C. 6WJ MAN	12 BENEY /		LOT		/			
HABITAT TYPES Indicate the percentage of each habitat type present Cobble_10 % Saags % Vegetated Banks % Sand 70 % Submerged Macrophytes % Other ()			DATE	1/2/67	REAS	ON FOR SURVE	Y			_
Cobble_16_% Snags% Over Sand_70_%	۲-	wxرواء	TIME	3.54.5 VM C	D Chil	gico / STRE	m mp	N/	_	
How were the samples collected? Wading From bank From boat	HABITAT TYPES	C Cobble 20	% 🖸 Snags	% C Vegetate						-
How were the samples collected?	SAMPLE	Gear used 🔾	D-frame Ckick-ne	t Q Qth	er					
Indicate the number of Jabs/kicks taken in each habitat type. Cobble Snags Vegetated Banks Sand	COLLECTION	How were the	complex collected?	Awading	Diftom bank	k Differe	n host			
QUALITATIVE LISTING OF AQUATIC BIOTA Indicate estimated abundance: 0 - Absent/Not Observed, 1 = Rare, 2 = Common, 3- Abundant, 4 - Dominant		Indicate the nu Cobble	mber of jabs/kicks t	aken in each habit O Vegetate	nt type. ed Banks			3 x	ريادا	(٠
QUALITATIVE LISTING OF AQUATIC BIOTA Indicate estimated abundance: 0 - Absent/Not Observed, 1 = Rare, 2 = Common, 3- Abundant, 4 - Dominant	GENERAL		ANDE KETTIN	hat there are	1014 -				_	_
QUALITATIVE LISTING OF AQUATIC BIOTA Indicate estimated abundance: 0 = Absent/Not Observed, 1 = Rare, 2 = Common, 3= Abundant, 4 = Dominant	•									
Periphyton 0 1 2 3 4 Slimes 0 1		MAPL	187 <u>PB184</u>	7 (17-676						A)
- 1. 2 0 1 0 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Indicate estimated	ISTING OF A	QUATIC BIOTA	A						Æ.
Filamentous Algae 0 1 2 3 4 Macroinvertebrates 0 1	Indicate estimated Dominant	ISTING OF A	QUATIC BIOTA D = Absent/Not O	A bserved, 1 = Ra	re, 2 = Co		bundant,	4-		
	Indicate estimated Dominant Periphyton	ISTING OF A	QUATIC BIOTA D = Absent/Not O	A bserved, 1 = Ra 4 Slime	re, 2 = Co	ommon, 3= A	bundant, O	4 -		3
		Note: Am	MIPORS AB	SENT CALL	ur MASA	Ker Bless	e we	ika		
	Indicate estimated	ISTING OF A	QUATIC BIOTA	A						7
	Indicate estimated Dominant Periphyton	ISTING OF A	QUATIC BIOTA D = Absent/Not O	A bserved, 1 = Ra 4 Slime	re, 2 = Co	ommon, 3= A	bundant, O	4 -	2	3
<u> </u>	Indicate estimated Dominant Periphyton Filamentous Algae	ISTING OF A	0 1 2 3 0 0 1 2 3 0	hserved, 1 = Ra Slime Macr	re, 2 = Co	ommon, 3= A	bundant, O	4 -	2	3
	Indicate estimated Dominant Periphyton	ISTING OF A abundance: (QUATIC BIOTA 0 - Absent/Not O	A bserved, 1 = Ra 4 Slime 4 Macr 4 Fish	es coinvertebra	ottimon, 3= A	o O	1 1	2 2 2	
organisms), 3= Abandant (>10 organisms), 4 = Dominant (>50 organi	Indicate estimated Dominant Periphyton Filamentous Algae Macrophytes FIELD OBSERVA	ISTING OF A abundance: (QUATIC BIOTA 0 - Absent/Not O 0 1 2 3 0 1 2 3 0 1 2 3 ACROBENTHO 0 - Absent/Not O	A bserved, 1 = Ra 4 Slime 4 Macr 4 Fish S Observed, 1 = R	es oinvertebrane (1-3 or	ommon, 3= A ates ganisms), 2 =	o o o	4 = 1 1 1 1 (3-9)	2 2 2	
organisms), 3= Abundant (>10 organisms), 4 = Dominant (>50 organi Porifera 0 1 2 3 4 Anisoptera 0 1 2 3 4 Chironomidae 0 1	Indicate estimated Dominant Periphyton Filamentous Algae Macrophytes FIELD OBSERVA Indicate estimated	abundance: (ATIONS OF M abundance:	QUATIC BIOTA O 1 2 3 O 1 2 3 O 1 2 3 O 1 2 3 O ACROBENTHO O = Absent/Not Corganisms), 3= A	A bserved, 1 = Ra 4 Slime 4 Macr 4 Fish S Observed, 1 = R. bundant (>10 or	es oinvertebra are (1-3 or rganisms),	ates ganisms), 2 =	O O O Commo	4 = 1 1 1 1 1 1 1 1 1 1	2 2 2	3 3
Porifera 0 1 2 3 4 Anisoptera 0 1 2 3 4 Chironomidae 0 1 Hydrozoa 0 1 2 3 4 Ephemeroptera 0 1	Indicate estimated Dominant Periphyton Filamentous Algae Macrophytes FIELD OBSERVA Indicate estimated	abundance: 0 ATIONS OF M abundance: 0 1 2 3	QUATIC BIOTA O 1 2 3 O 1 2 3 O 1 2 3 O 1 2 3 O 1 2 3 ACROBENTHO O = Absent/Not Corganisms), 3= A	A bserved, 1 = Ra 4 Slime 4 Macr 4 Fish S Observed, 1 = Ra bandant (>10 o	es oinvertebra are (1-3 or rganisms), 2 3 4 2 3 4	ates ganisms), 2 = Chironomida Ephemeropte	Commo	4 = 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2 2 2 2	3 3
Porifera	Indicate estimated Dominant Periphyton Filamentous Algae Macrophytes FIELD OBSERVA Indicate estimated Porifera Hydrozoa	abundance: O 1 2 3 O 1 2 3	QUATIC BIOTA O Absent/Not O O 1 2 3 O 1 2 3 O 1 2 3 O 1 2 3 ACROBENTHO O = Absent/Not C organisms), 3= A 4 Anisoptera 4 Zygoptera	A bserved, 1 = Ra 4 Slime 4 Macr 4 Fish S bserved, 1 = R bandant (>10 o	es oinvertebra are (1-3 or rganisms), 2 3 4 2 3 4	rganisms), 2 = Chironomida Ephemeropte Trichoptera	Commo	4 = 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2 2 2 2	3 3 3
Porifera	Indicate estimated Dominant Periphyton Filamentous Algae Macrophytes FIELD OBSERVA Indicate estimated Porifera Hydrozoa Platyhelminthes	ATIONS OF Mabundance:	QUATIC BIOTA O Absent/Not O 1 2 3 O 1 2 3 O 1 2 3 O 1 2 3 ACROBENTHO O = Absent/Not Corganisms), 3= A 4 Anisoptera 4 Zygoptera 4 Hemiptera	A bserved, 1 = Ra 4 Slime 4 Macr 4 Fish S bserved, 1 = R bandant (>10 or 0 1 0 1 0 1	es soinvertebrare (1-3 or rganisms), 2	rganisms), 2 = Chironomida Ephemeropte Trichoptera	Commo	4 = 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2 2 2 2	3 3 3
Porifera 0 1 2 3 4 Anisoptera 0 1 2 3 4 Chironomidae 0 1	Indicate estimated Dominant Periphyton Filamentous Algae Macrophytes FIELD OBSERVA Indicate estimated Porifera Hydrozoa Platyhelminthes Turbellaria	ATIONS OF M abundance: 0 1 2 3 0 1 2 3 0 1 2 3 0 1 2 3 0 1 2 3	QUATIC BIOTA O Absent/Not O 1 2 3 O 1 2 3 O 1 2 3 O 1 2 3 ACROBENTHO O = Absent/Not Corganisms), 3= A 4 Anisoptera 4 Zygoptera 4 Hemiptera 4 **Coleoptera 4 Lepidoptera	A bserved, 1 = Ra 4 Slime 4 Macr 4 Fish S Observed, 1 = R bendant (>10 or 0 1 0 1 0 1 0 1	es oinvertebra re (1-3 or rganisms), 2 3 4 2 3 4 2 3 4 2 3 4	rganisms), 2 = Chironomida Ephemeropte Trichoptera	Commo	4 = 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2 2 2 2	3 3 3
Porifera 0 1 2 3 4 Anisoptera 0 1 2 3 4 Chironomidae 0 1	Indicate estimated Dominant Periphyton Filamentous Algae Macrophytes FIELD OBSERVA Indicate estimated Porifera Hydrozoa Platyhelminthes Turbellaria Hirudinea	TIONS OF M abundance: 0 1 2 3 0 1 2 3 0 1 2 3 0 1 2 3 0 1 2 3 0 1 2 3	QUATIC BIOTA O 1 2 3 O 1 2 3 O 1 2 3 O 1 2 3 O 1 2 3 ACROBENTHO O=Absent/Not Corganisms), 3= A Anisoptera 4 Anisoptera 4 Zygoptera 4 Henriptera 4 **Coleoptera 4 Lepidoptera 4 Lipidoptera 4 Sialidae	A bserved, 1 = Ra 4 Slime 4 Macr 4 Fish S Observed, 1 = R. beandant (>10 o	es oinvertebra re (1-3 or rganisms), 2 3 4 2 3 4 2 3 4 2 3 4	rganisms), 2 = Chironomida Ephemeropte Trichoptera	Commo	4 = 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2 2 2 2	3 3 3
Porifera	Indicate estimated Dominant Periphyton Filamentous Algae Macrophytes FIELD OBSERVA Indicate estimated Porifera Hydrozoa Platyhelminthes Turbellaria Hirudinea Oligochaeta	TIONS OF M abundance: 0 1 2 3 0 1 2 3 0 1 2 3 0 1 2 3 0 1 2 3 0 1 2 3 0 1 2 3	QUATIC BIOTA O 1 2 3 O 1 2 3 O 1 2 3 O 1 2 3 ACROBENTHO O=Absent/Not Corganisms), 3=A Anisoptera A Zygoptera Hemiptera Coleoptera Lepidoptera Lepidoptera Corydalidae Corydalidae	A bserved, 1 = Ra 4 Slime 4 Macr 4 Fish S Observed, 1 = R. beandant (>10 o	es poinvertebra re (1-3 or rganisms), 2 3 4 2 3 4 2 3 4 2 3 4 2 3 4	rganisms), 2 = Chironomida Ephemeropte Trichoptera	Commo	4 = 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2 2 2 2	3 3 3
Porifera 0 1 2 3 4 Anisoptera 0 1 2 3 4 Chironomidae 0 1	Indicate estimated Dominant Periphyton Filamentous Algae Macrophytes FIELD OBSERVA Indicate estimated Porifera Hydrozoa Platyhelminthes Turbellaria Hirudinea Oligochaeta Isopoda	TIONS OF M abundance: 0 1 2 3 0 1 2 3 0 1 2 3 0 1 2 3 0 1 2 3 0 1 2 3 0 1 2 3 0 1 2 3	QUATIC BIOTA O 1 2 3 O 1 2 3 O 1 2 3 O 1 2 3 ACROBENTHO O=Absent/Not Corganisms), 3=A Anisoptera A Zygoptera Hemiptera Coleoptera Lepidoptera Lepidoptera Corydalidae Corydalidae	A bserved, 1 = Ra 4 Slime 4 Macr 4 Fish S bserved, 1 = R 0 1 0 1 0 1 0 1 0 1 0 1 0 1	es oinvertebro are (1-3 or rganisms), 2 3 4 2 3 4 2 3 4 2 3 4 2 3 4 2 3 4 2 3 4	rganisms), 2 = Chironomida Ephemeropte Trichoptera	Commo	4 = 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2 2 2 2	3 3 3
Porifera 0 1 2 3 4 Anisoptera 0 1 2 3 4 Chironomidae 0 1 1 1 1 1 1 1 1 1	Indicate estimated Dominant Periphyton Filamentous Algae Macrophytes FIELD OBSERVA Indicate estimated Porifera Hydrozoa Platyhelminthes Turbellaria Hirudinea Oligochaeta Isopoda Amphipoda Decapoda	O 1 2 3 O 1 2 3 O 1 2 3 O 1 2 3 O 1 2 3 O 1 2 3 O 1 2 3 O 1 2 3 O 1 2 3 O 1 2 3 O 1 2 3	QUATIC BIOTA O Absent/Not O 1 2 3 O 1 2 3 O 1 2 3 O 1 2 3 ACROBENTHO O = Absent/Not C organisms), 3= A 4 Anisoptera 4 Zygoptera 4 Hemiptera 4 Coleoptera 4 Lepidoptera 4 Lepidoptera 4 Corydalidae 4 Tipulidac 4 Empididae	A bserved, 1 = Ra 4 Slime 4 Macr 4 Fish S bserved, 1 = R bundant (>10 o	es soinvertebrare (1-3 or rganisms), 2 3 4 2 3 4 2 3 4 2 3 4 2 3 4 2 3 4 2 3 4 2 3 4 2 3 4 2 3 4 2 3 4 2 3 4 2 3 4 2 3 4 2 3 4 2 3 4	rganisms), 2 = Chironomida Ephemeropte Trichoptera	Commo	4 = 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2 2 2 2	3 3 3

NOTE: SHELLS OF ASIATIC CLAM FLUND AT THIS LOCATION (NOT LIVE)

Bivalvia

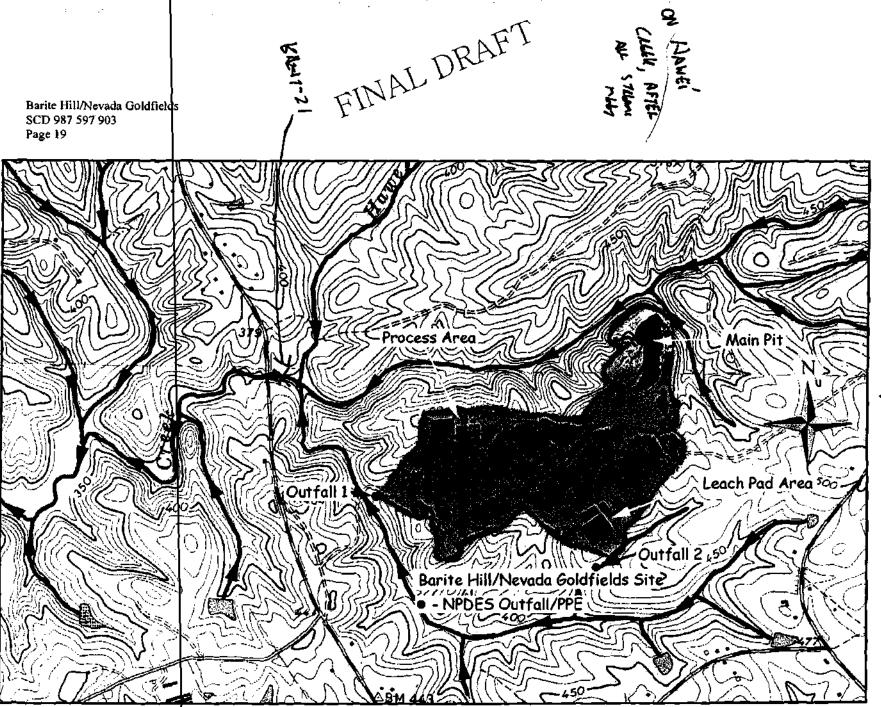


Figure 2 - Surface Water Pathway for Barite Hill/Nevada Goldfields Site

ļ	STREAM NAME - AN	61	LOCATION	84124	7-21					
•	STATION#RI	VERMILE	STREAM CLAS							
695-	LATLO	NG	RIVER BASIN							
•	STORET#		AGENCY EAT LEDG FOL							
	INVESTIGATORS /	AENCE / M. NIG	U/ C.blue	MAN /5.	FALLLAS.					
	FORM COMPLETED BY	٧	DATE 3/21/4 TIME 5:00		REASON FOR SURVEY SINGHERAL STANDAR EMPACÍ					
	WEATHER CONDITIONS	Cl rain (Cl shower —%Cl %c	(heavy rain) steady rain) s (intermittent) loud cover par/sunny	F-1	Has there been a heavy rain in the last 7 days? Q Yes No Air Temperature Other					
	SITE LOCATION/MAP	Draw a map of the sit	e and indicate the	BA24	SMALLER CHANNEL 7-21					
	STREAM CHARACTERIZATION	Stream Subsystem Premial Int Stream Origin O Glacial	ermittent O Tid		Stream Type Coldwater					
	}	Non-glacial montan Swarnp and bog	O Spring-fee e Mixture o Other	of origins						

WATERSI FEATURE		Predomi O Forest O Field/I O Agrica O Reside	Pasture 🔾 Industrial ultural 🗘 Other	cial	Local Watershed NPS P No evidence E Some Obvious sources Local Watershed Brosk None D Moderate	potential sources					
RIPARIAN VEGETAT (18 meter 1	MON .		the dominant type and I Sk at species present			rbaccous					
INSTREAL FEATURE		Estimate Samplin Area in Estimate	km² (m²x1000) ed Stream Depth Velocity veg)	m² km² m	Proportion of Reach Re Morphology Types Riffle 30 % Pool 70 % Channelized Wyes Dam Present Yes	epresented by Stream Run %					
LARGE W DEBRIS	УООД У	LWD Deasity	WDm' Occasional Site (4) easity of LWDm'/km² (LWD/ reach area)								
AQUATIC VEGETAT		O Roote O Floati domina	Indicate the dominant type and record the dominant species present Rooted emergent								
WATER	QUALITY	Specific Dissolve pH	rature 20.13 °C Conductance 0.434 ed Oxygen 64.114 ety 7.2 NTV strument Used 75	, , ,	□ Fishy □ Water Surface Oils	Globs C Flecks					
SEDIMEN SUBSTRA		Odors Norm Chem Other Other Abser	ical 🖸 Anaerobic	O Petroleum O None	Looking at stones which are the undersides blac	☐ Paper fiber					
INC	ORGANIC SUBS		COMPONENTS		ORGANIC SUBSTRATE C (does not necessarily add						
Substrate Type	Diamet	er	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area					
Bedrock			20%	Detritus	sticks, wood, coarse plant	129					
Boulder	> 256 mm (10°)		571		materials (CPON)	l					
Cobble	64-256 mm (2.5	i"-10")	309	Muck-Mud	black, very fine organic (FPOM)						
Gravel	2-64 mm (0.1°-:	2.5")	30 %	<u> </u>	12 1 (1)11)	<u></u>					
Sand	0.06-2mm (gritt	y)	1591	Mari	grey, shell fragments	1					
Silı	0.004-0.06 mm)	}					
Clay	< 0.004 mm (sli	ick)	l	<u></u>	<u> </u>	L					

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (FRONT)

_			
	STREAM NAME	[HAWES	LOCATION BAZ47 X 21
	STATION#	RIVERMILE	STREAM CLASS
GN.	LAT	LONG	RIVER BASIN
	STORET#		AGENCY ELT/ABAC/FAW
	INVESTIGATORS	R. HENRY M. N	
	FORM COMPLETED		DATE 3/2707 REASON FOR SURVEY STATE
		C. blusman	TIME 5:05 AM (B) BIOLOGIAL MOINTLING IMPACT

	Habitat		Condition	Category	
	Parameter	Optimal	Suboptimal	Marginal	Peor
ich	1. Epifauaal Substrate/ Available Cover	Greater than 50% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).	30-50% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintestance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).	10-30% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.	Less than 10% stable habitat; lack of habitat is obvious; substrate unstable or lacking.
each	SCORE	20. 19 18 17 16	15 14 13 12 11	0 9 8 7 6	5 4 3 2 1 0
Parameters to be evaluated in sampling reach	2. Pool Substrate Characterization	Mixture of substrate materials, with gravel and firm sand prevalent; root mats and submerged vegetation common.	Mixture of soft sand, mud, or ciay; mud may be dominant; some root mats and submerged vegetation present.	All mad or clay or sand bottom; little or no root mat; no submerged vegetation.	Hard-pan clay or bedrock; no root mat or vegetation.
uster	SCORE	20 19 18 17 16	15 14 13 12 11	(20) 9 8 7 6	5 4 3 2 1 0
rs to be eval	3. Peol Variability	Even mix of large- shallow, barge-deep, small-shallow, small-deep pools present.	Majority of pools large- deep; very few shallow.	Shallow pools much more prevalent than deep pools.	Majority of pools small- shallow or pools absent.
Dete	SCORE	26 19 18 17 16	15 14 13 12 11	10 9 3 7 6	5 4 3 2 1 0
Pars	4. Sediment Deposition	Little or no enlargement of islands or point bars and less than <20% of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 20-50% of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel, sand or fine sediment on old and new bars; 50-80% of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; more than 80% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.
	SCORE	20 19 18 17 16	15 14 13 (12)11	10 9 8 7 6	5 4 3 2 1 0
	5. Channel Flow Status	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.	Water fills >75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.
├-	SCORE	20 19 18 17 16	15 14 13 12 11	10(9) 8 7 6	5 4 3 2 1 0

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (BACK)

٢		Habitat		Condition	Category					
ı	- 1	Parameter	Optimal	Suboptimal	Marginal	Poer				
		6. Channel Alteration	Channelization or dredging absent or minimal; stream with normal pattern.	Some channelization present, usually in areas of bridge abutments; evidence of past charmelization, i.e., dredging, (greater than past 20 yr) may be present, but recent charmelization is not present.	Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.	Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely.				
1	L	SCORE	20 19 18 17 116	15) 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0				
	sampling reach	7. Channel Simuosity	The bends in the stream increase the stream length 3 to 4 times longer than if it was in a straight line. (Note - channel braiding is considered normal in coastal plains and other low-lying areas. This parameter is not easily rated in these areas.)	The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.	The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.	Channel straight; waterway has been channelized for a long distance.				
ı		SCORE	20: 19: 18: 17: 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0				
	Parameters to be evaluated broader than	8. Bank Stability (score each bank)	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30-60% of bank in reach has areas of crosion; high erosion potential during floods.	Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.				
-[8	SCORE(LB)	Left Bask 10 9	7 6	5 4 3	2 1 0				
-	2 2	SCORE (RB)	Right Bank 10(9)	8 7 6	5 4 3	2 1 0				
	Parameters	9. Vegetative Protection (score each bank) Note: determine left or right side by facing downstream.	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.	70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.	50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely exopped vegetation common; less than one-half of the potential plant stubble height remaining.	Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.				
	- 1	SCORE(LB)	Left Bank 10 🗇	8 7 6	5 4 3	2.0 10 0 0				
-	- [SCORE(RB)	Right Bank 10 (3)	8 7 6	5 4 3	2 1 0				
		10. Riparian Vegetative Zone Width (score each bank riparian zone)	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not	Width of riparian zone 12- 18 meters; hurnan activities have impacted zone only minimally.	Width of riparian zone 6- 12 meters; human activities have impacted zone a great deak	Width of riparian zone <6 meters: little or no riparian vegetation due to human activities.				
╅			impacted zone.							
1	J	SCORE(LB)	Left Bank 19 9	8 7 6	5 4 3	2 1 0				
		SCORE(RB)	Right Bank (10) 9	8 7 6	5 4 3	2 1 0				

Total Score 128

BENTHIC MACROINVERTEBRATE FIELD DATA SHEET

			_	_									_	۷Z	-						
STREAM NAME		7	WE				и	DCA	TIO	N	丛	<u> 241</u>	<u>7-</u>	X.	21						
STATION #	_ R	VER	IIM	.E_			SI	TRE	AM	CLAS	S							_			
LAT	LC	NG					R	iVΕ	R B/	SIN											\Box
STORET#							AGENCY CATIFACTED														
INVESTIGATORS	٤.	NEW	ex		M.	MI	_							_		NUMBER					╗
FORM COMPLETED	BY	6		•			D.	ATI		/2 <i>1</i> / 5: 10		ΑМ	9	R	eas U	on for survey	بر	IM P	K	_	
HABITAT TYPES	0	Cobl	ele 🕺	<u> </u>	%	age o	negs,			it type	ďγ		ited l		(9	_% 🔾 Sand 12 (<u>,</u> %				
SAMPLE	G	: 1 T (#	r used (D-frame kick-not Other																		
COLLECTION	1			•									_		- L	k U from boat					
1	Н	DAL AN	• · · · · · · · · · · · · · · · · · · ·																		
	o.	Cobl	licate the number of Jabs/kicks taken in each habitat type. Cobble																		
GENERAL COMMENTS		_	_		_)	لغه	, N	Bit	n l	WANTY,					
																					ļ
QUALITATIVE I Indicate estimated Dominant										erved	l, 1	- I	čare	o, 2	- c	ommon, 3= Abunc	lant	, 4-	•		
Periphyton					0	1	2	3	4			Ślir	nes				0	1	2	3	4
Filamentous Algae					0	ı	2	3	4			Ma	стоі	nve	rteb	rates	0	1	2	3	4
Macrophytes					0	1	2	3	4		_	Fis	<u> </u>		_		Q	_1	2	3	4
FIELD OBSERVA Indicate estimated				e:	0 =	Abse	:nt/l	Not	Ob							rganisms), 2 = Coi , 4 = Dominant (>				ı s)	
Porifera	0	1	2	3	4	An	isop	tera			0	1	2	3	4	Chironomidae	0	_	2	3	4
Hydrozoa	0	ı	2	3	4		gopt				0	1	2	3		Ephemeroptera	0			3	4
Platyhelminthes	0	1	2	3	4		mip				0	Ĭ	2	3		≥Trichoptera	0	Ø		3	4
Turbellaria	0	1	2	3	4,		-				0	Ø	2	3	4	Other	0	1	2	3	4
Hirudinea	0	i	2	3	4		oido	_	ra		0	1	2	3	4	ļ					
Oligochaeta	0	1	2	3	4		lida	_			0		2		_4_	 	_		_		_
Isopoda	0	1	2	3	4		ryda		ie		0	ı	2	3	4	1					
Amphipoda	0	0	2	3	4		oulid				0	1	2	3	4	1					
Decapoda	0	1	2	3	4	r	pidi				0	1	2	3	4						
Gastropoda	0	- 1	2	3	4	ı Sin	nulii	idac			0	1	2	3	4	E .					

Rapid Bioassessment Protocols For Use in Streams and Wadeable Rivers: Periphyton, Benthic Macroinvertebrates, and Fish, Second Edition - Form 1

Tabinidae

Bivalvia

FINAL DRAFT

Barite Hill/Nevada Goldfields SCD 987 597 903 Page 19

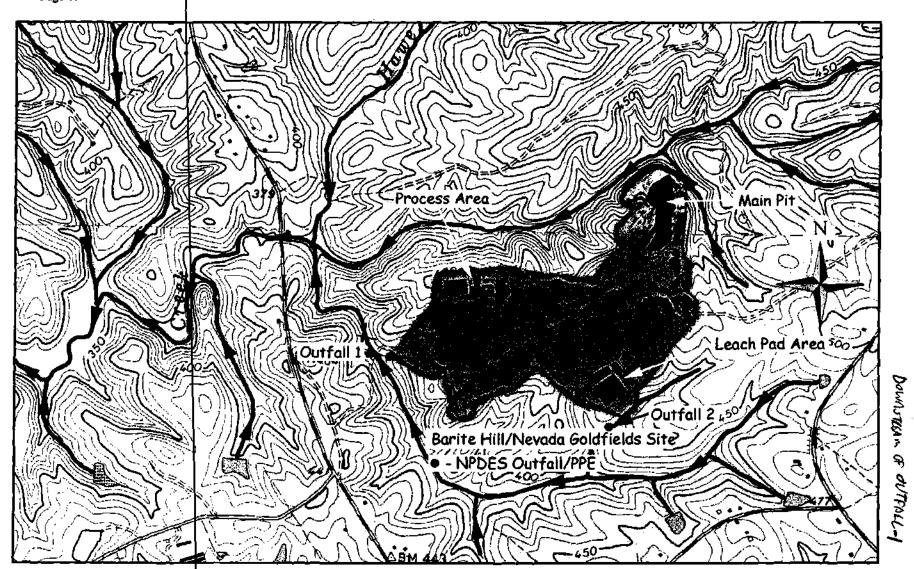


Figure 2 - Surface Water Pathway for Barite Hill/Nevada Goldfields Site

BH247-25

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET (FRONT)

	STREAM NAME	<u> </u>	LOCATION 8/124	17-25
٠.	STATION #RI	VERMILE	STREAM CLASS	
Glr ->	LATLO	NG	RIVER BASIN	
	STORET #		AGENCY GRT/16	FAC MUNICIPLES
	INVESTIGATORS 2. A	ENRAY To GUS		m. necae:
	FORM COMPLETED BY	GUUMAN	DATE 3/27/27 TIME 3:30 AM I	REASON FOR SURVEY
	WEATHER CONDITIONS SUNNY, ARAT BAGGE,	O rain (O shower —	Past 24 hours (heavy rain) (steady rain) c (intermittent) cloud cover car/sigmy	Air Temperature 16 C (GrifMA)
	SITE LOCATION/MAP	Stallan HARR		19/
			FLOWING WMGE ARWING LOGG OF A	SMALL FISH OBSELVED HERE
	STREAM	Stream Subsystem		Stream Type D Coldwater C Warmwater
	CHARACTERIZATION	M Perennial Olm Stream Origin O Glacial O Non-glacial montan	termittent	Catchmont Area km²

< 0.004 mm (slick)

WATE FEAT	RSHED URES	Predomi Forest Field/I Agricu Reside	Pasture Industrial	cial	Local Watershed NPS Pollution No evidence Some potential so Obvious sources Local Watershed Erosion None M Moderate Heavy							
RIPAR VEGE (18 me	RIAN TATION ter buffer)		the dominant type and Shr of Shr of species present		minant species present Her Crasses Her UnOblatMI of folks/a	rbaceous						
INSTR		Estimate Estimate Samplin Area in Estimate	ed Reach Length ed Stream Width g Reach Area km² (m²x1000) ed Stream Depth Velocity veg) J***6 Fto	m m km² km² m	Canopy Cover Partly open O Partly High Water Mark 2 Proportion of Reach Re Morphology Types O Raifle 30 % G O Pool% Channelized E Yes Dam Present 20 Yes	shaded © Shaded .5 m spresented by Stream Run 50 % © No 60 YBS © No URSTREAM						
LARG DEBR	E WOODY	LWD Density	of LWDm	A F6W 50 ² /km² (LWD) 1	CATIONED LAMBE TREE reach area)	seatibles.						
AQUA VEGE	ATIC TATION	O Roote O Floati dozuina	ng Algāc Ati ut species present	oted submerger tached Algae		O Free floating						
WATE	ER QUALITY	Specific Dissolve pH _7_ Turbidi	rature 27.12°C Conductance 0.365 ed Oxygen 15 sy 44.9 NTU trament Used NST	,		Chemical Other						
	MENT/ TRATE	Odors Norm Chem Chem Chem Chem Chem Chem Chem Che	ical Cl Anaerobic	O Petroleum O None	Looking at stones which	h are not deeply embedded.						
	ENORGANIC SUB-	STRATE (COMPONENTS 00%)		ORGANIC SUBSTRATE C (does not necessarily add							
Substr Typ		ler*	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area						
Bedroc				Detritus	sticks, wood, coarse plant materials (CPOM)	C596						
Boulde	× > 256 mm (10"	<u></u>		==								
Cobble	: 64-256 mm (2.5	5"-10")	30	Muck-Mud	black, very fine organic (FPOM)							
Gravel	2-64 mm (0.1"-	2.5°)	10			<u> </u>						
Sand	0.06-2mm (gritt	ty)	15	Mari	grey, shell fragments							
Sile	0.004-0.06 mm		.16			1						

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (FRONT)

STREAM NAME	LOCATION EA24 7-25
STATION # RIVERMILE	STREAM CLASS
LATLONG	RIVER BASIN
STORET #	AGENCY ERT/REAC FISHEN/LOLIFE
INVESTIGATORS C. GWWMAN/R. NG.	NAY / S. PAGDERICAL / M. NICAO
FORM COMPLETED BY C. GUSSMAN	DATE 1: 12 67 REASON FOR SURVEY TIME 3:30 M PM Bulgical STREET

	Habitat				
	Parameter	Optimal	Suboptimal	Marginal	Роог
	Epifaunal Substrate/ Available Cover	Greater than 50% of substrate favorable for epifatmal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).	30-50% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).	10-30% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.	Less than 10% stable habitat; lack of habitat is obvious; substrate unstable or lacking.
2	SCORE	20 19 18 17 16	15 14 13 (12) 11	10 9 8 7 6	5 4 3 2 1 0
be evaluated in sampling reack	2. Pool Substrate Characterization	Mixture of substrate materials, with gravel and firm sand prevalent, root mats and submerged vegetation common.	Mixture of soft sand, mud, or clay; mud may be dominant; some root mats and submerged vegetation present.	All mud or clay or sand bottom; little or no root mat; no submerged vegetation.	Hard-pan clay or bedrock; no root mat or vegetation.
	SCORE	20 19 18 17 16	15 14 13 12 11	10 (9) 8 7 6	\$ 4 3 2 1 0
Parameters to be eval	3. Pool Variability	Even mix of large- shallow, large-deep, small-shallow, small-deep pools present.	Majority of pools large- deep; very few shallow.	Shallow pools much more prevalent than deep pools.	Majority of pools small- shallow or pools absent.
#	SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
rad	4. Sediment Deposition	Little or no enlargement of islands or point bars and less than <20% of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 20-50% of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel, sand or fine sediment on old and new bars; 50-80% of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; more than 80% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.
1	SCORE	20 19 18 17 16	15 14 13 12 11	10(3) 8 7 6	5 4 3 2 1 0
	5. Channel Flow Status	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.	Water fills > 75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.
-	SCORE	29 19 18 17 (5)	15 14 15 12 11	10 9 8 7 6	5 4 3 2 1 0

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (BACK)

	Habitat		<u>Conditien</u>	Category					
	Parameter	Optimal	Subentimal	Marginal	Poor				
	6. Channel Alteration	Channelization or dredging absent or minimal; stream with normal pattern.	Some channelization present, usually in areas of bridge abutunents; evidence of past channelization, i.e., dredging, (greater than past 20 yr) may be present, but recent channelization is not present.	Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.	Banks shored with gabion or coment; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely.				
	SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0				
then sampling reach	7. Channel Sinuosity	The bends in the stream increase the stream length 3 to 4 times longer than if it was in a straight line. (Note - channel braiding is considered normal in coastal plains and other low-lying areas. This parameter is not easily rated in these areas.)	The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.	The bends in the stream increase the stream length I to 2 times longer than if it was in a straight line.	Channel straight; waterway has been channelized for a long distance.				
	SCORE	20 19 18 17 16	19 14 13 12 11	10 9 8 (7) 6	5 4 3 2 1 0				
to be evaluated broader than	8. Bank Stability (score each bank)	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.	Moderately stable; infrequent, small areas of crosion mostly healed over. 5-30% of bank in reach has areas of crosion.	Moderately unstable; 30- 60% of bank in reach has areas of erosion; high erosion potential during floods.	Unstable; many eroded areas; "raw" areas frequent along straight sections and brads; obvious bank sloughing; 60-100% of bank has erosional sears.				
to be evi	SCORE(LB) SCORE(RB)	Left Bank 10 9 Right Bank 10 9	8 (7 6 8 U 6	3 4 3	2 1 0				
Parameters	9. Vegetative Protection (score each bank) Note: determine left or right side by facing downstream.	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory slaubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.	70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.	50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.	Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.				
	SCORE(LB) SCORE(RB)	Left Bank 10 9 Right Bank 10 9	8 7 6 8 7 (6)	5 4 3	2 l 0 2 l 0				
	10. Riparian Vegetative Zone Width (score each bank riparian zone)	Width of riperian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted zone.	Width of riparian zone 12- 18 meters; human activities have impacted zone only minimally.	Width of riparian zone 6- 12 meters; human activities have impacted zone a great deal.	Width of riparian zone < meters: little or no riparian vegetation due to human activities.				
	SCORE(LB)	Left Bank ① 9	8 7 6	5 4 3	2 1 0				
	SCORE(RB)	Right Bank (0) 9	8 7 6	5 4 3	2 1 0				

Total Score 123

'54 69

BENTHIC MACROINVERTEBRATE FIELD DATA SHEET

STREAM NAME						LOCATION BH247-25										٦			
STATION#	RI	VΕ	RMII	.E_			STREAM CLASS												
LAT	LO	NO					RIVER	BASI	N										٦
STORET #		_					AGENCY												٦
INVESTIGATORS				_								Lo	4 10	UMBER	_			_	┪
FORM COMPLETED	BY	_					DATE TIME	3/2 3/5	8/37	лм((H)	Ri	_	ON FOR SURVEY					
HABITAT TYPES	Ind O (Bea Cob Sub	te the ble_ merge	per ed M	rcent % lacro	age of a Sna phytes_	each ha	bitat t	ΩVα	epeta	t ated E	lenk		%	_%				
SAMPLE COLLECTION	Ho	Gear used Deframe How were the samples of Indicate the number of it Cobbie 2 0 O Submerged Macrophyt				les coll	etted?	p takon i	wadini in each	g hah	i test	from	bani	k 🗅 from boat					
GENERAL COMMENTS									- .										
QUALFTATIVE I Indicate estimated Dominant		ınd		: () - 4	Absent	/Not C	Observ	-				- C	ommon, 3= Abund	lant,	4-	•		
Periphyton				_	0	1 2	3	4		Sli	nes				0	1	2	3	4
Filamentous Algae					0	1 2	3	4					tebr	ates	0	t	2	3	4
Macrophytes				_	0	1 2	. 3	4			<u> </u>				0	_1_	2	3	4
	abu	ınd	ance	::	orga	Absen misms	t/Not (i), 3= /	Obser Abund	lant (>10	orga	enis	ms)	rganisms), 2 = Con , 4 = Dominant (>:			nism:	_	
Porifera	0	ľ	2	3	4	Anis	орtега		0					Chironomidae	-	į	~	3	4
Hydrozoa	0	1	2	3	4	Zygo	ptera							/Ephemeroptera		1	②	_	4
Platyhelminthes		1	-78			Liam										1	2	3	4
Tankallasi -							iptera		0	1				I -	0				٠
Turbellaria	0	t	2	3	4	Cole	optera		0]	2	3	4	Other		1	2	3	4
Hirudinea	0	1	2 2	3	4	Cole Lepi	optera doptera		0]]]	2	3 3	4	_		1			4
Hirudinea Oligochaeta	0 0 0	t	2 2 ②	3 3 3	4 4 4	Cole Lepid Siali	optera doptera dae	ı 	0 0 0] 	2 2 2	3 3 3	4 4	_		i —			4
Hirudinea Oligochaeta Isopoda	0 0 0	1 1	2 2 ② 2	3 3 3	4 4 4	Cole Lepi Siali Cory	optera doptera dae dalidae	ı 	0 0 0	1 1 1 1	2 2 2 2	3 3 3	4 4 4	_		i —			4
Hirudinea Oligochaeta Isopoda Amphipoda	0 0 0	1	2 ② ② ②	3 3 3 3	4 4 4	Cole Lepid Siali Cory Tipu	optera doptera dae dalidae lidae	ı 	0 0 0 0] 	2 2 2 2 2	3 3 3 3	4 4 4 4 4	_		i 			4
Hirudinea Oligochaeta Isopoda	0 0 0	1 1	2 2 ② 2	3 3 3	4 4 4 4	Cole Lepid Siali Cory Tipu Emp	optera doptera dae dalidae	: 	0 0 0] 	2 2 2 2	3 3 3 3 3	4 4 4	_		i 			4

FINAL DRAFT

Barite Hill/Nevada Goldfields SCD 987 597 903 Page 19

Along Stram (lander

Sporximaloly

road/bridge

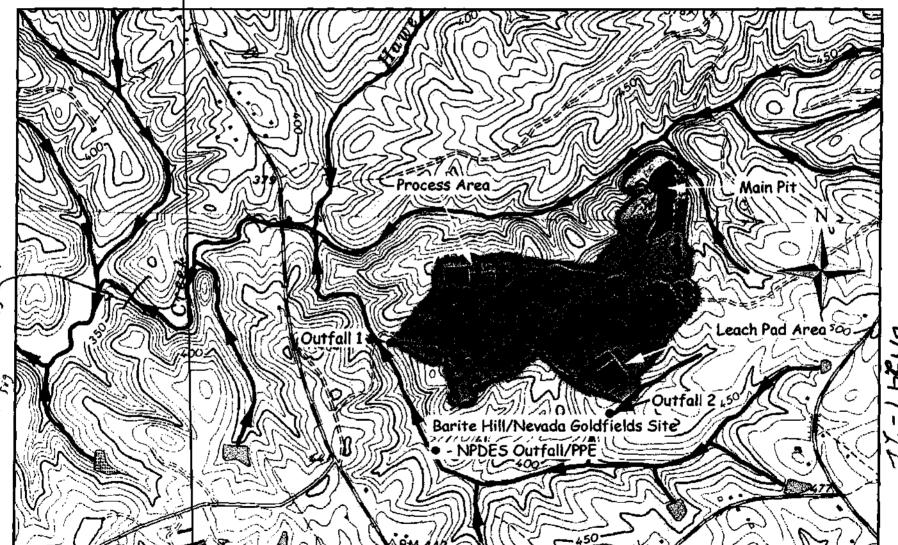


Figure 2 - Surface Water Pathway for Barite Hill/Nevada Goldfields Site

1297-12 Beneaus 3601meni

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET (FRONT) Described to the first bridge

				Proprieta ~ Mar 1/4 · · · · · · · · · · · · · · · · · · ·			
	STREAM NAME HAWE	5 Creok	LOCATION BH2	17-22			
	STATION#RI	VERMILE	STREAM CLASS				
6Ps -	JLAT1.0	NG	RIVER BASIN				
	STORET #		AGENCY ELT F	ish and Wildlife/REAC			
	INVESTIGATORS (Henry S. Freder	ides/M. Nigro / C. C	Gustran			
	FORM COMPLETED BY	Gustman	DATE 1/28/07 TIME 4:00 AM	PM Glogical/STREAM IMPACT			
	WEATHER CONDITIONS SYMMY, WALM, STILL	C) rain (Skower —	Past 24 bours (heavy rain) steady rain) steady rain) steady rain) steady rain Has there been a beavy rain in the last 7 days? Q Yes Who Air Temperature 26 C (Estimato) Other				
	SITE LOCATION/MAP	Draw a map of the sid	e and indicate the areas sa	impled (or attach a photograph)			
			Jan San Logs as Dela	POREST SANK ME GEOT SAN SANK ME GEOT CANIX B F COT Valy SAN SANK ME GEOT Valy SAN SANK ME GEOT Valy			
	STREAM CHARACTERIZATION	Streem Subsystem Perermial ① Int	empittent Q Tidal	Stream Type Coldwater			
		Stream Origin Glacial Non-glacial montan	□ Spring-fed	Catchment Areakm²			

WATERSI FEATURE		Predomi O Forest O Field/I O Agrica O Reside	itural 🖸 Other	cial I	Local Watershed NPS P A No evidence C Some C Obvious sources Lecal Watershed Erosic C None D Moderate	potential sources		
} -		 	 		C table & Modelifie			
RIPARIAN VEGETAT (18 meter 1	TION		the dominant type and Shi at species present Pay		minant species present OHer OGrasses OHer N.S., Some Pine, Gas J	Mixed understary		
INSTREAT FEATURE		Estimate		_m	Canopy Cover Partly open Partly	SVMMGE shaded Shaded		
					High Water Mark _	<u>3</u> m		
		-	g Reach Area		Proportion of Reach Re	presented by Stream		
[i		km² (m²x1000) ed Stream Depth	km² km²	Merphology Types O Riffle 25	Run <u>75</u> %		
į			• •	_	U rool	U No		
1		Surface (a) that	Velocitym/ reg)	lsec le flori	-			
<u></u>					Dam Present QYes	<u> </u>		
LARGE W DEBRIS	VOODY	LWD Density	of LWDm	ircyven) SMA Pami ² (LWD) i	ies & Luge wasy Police reach area)	is in scattered (lump).		
AQUATIO VEGETAT		□ Roote	the dominant type and demergent	record the do oted submerger tached Algae	minant species present nt Q Rooted floating	☐ Free floating		
ļ.		tomina	ot species present					
ł		Portion	of the reach with aquati	ic vegetation	<u></u>	•		
WATER (DUALITY	Temper	ature 16.36°C		Water Odors			
]	-	-	ConductanceO. 22Z		☐ Normal/None ☐ Sewa ☐ Petroleum ☐	Chemical		
1			d Onygen BAD READ		☐ Fishy ☐	☐ Fishy ☐ Other		
1		ы_7	33	· · · • ,	Water Surface Offs □ Slick □ Sheen □	Globs O Flecks		
1			y 0,1		None Other			
		WQ Ins	trument Used YSI		Turbidity (if not measured) Clear Slightly turbid Turbid Opaque O Stained O Other			
SEDIMEN SUBSTRA		Odors Normal Sewage Petroleum Shudge Sawdust Paper fiber Chemical Anaerobic None Relict shells Other FOLCEA						
		Oils Oils O Abser	nt 🗅 Slight 🕒 Moderat	e O Profu	are the undersides blac	h are not deeply embedded, k in color?		
INC		STRATE	COMPONENTS		ORGANIC SUBSTRATE C (does not necessarily add			
Substrate Type	Diamet	er	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area		
Bedrock			<u> </u>	Detritus	sticks, wood, coarse plant materials (CPOM)			
Boulder	> 256 mm (10")			on-motions (CA CAVI)			
Cobble	64-256 mm (2.5	5"-10")		Muck-Mud	black, very fine organic			
Gravel	2-64 mm (0.1"-	2.5")		<u> </u>	(FPOM)			
Sand	0.06-2mm (grit	y)	70%	Mari	grey, shell fragments			
Sitt	0.004-0.06 mm			I	1	ł		
Clay	< 0.004 mm (sl	ick)		[{			

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (FRONT)

STREAM NAME Have Crock	LOCATION \$11247-12
STATION# RIVERMILE	STREAM CLASS
LATLONG	RIVER BASIN
STORET #	AGENCY ELT REAC FISH WILDLIFE
INVESTIGATORS (. Graman / R. Hone	7 / M. Nigrols, Fraderiki
FORM COMPLETED BY C. GUSAM	TIME TILL M PM BIOMON SILLAN EMPORE

	Habitat	1	Condition	Category	
	Parameter	Optimal	Suboptimal	Marginal	Poor
	1. Epifaunal Substrate/ Available Cover	Greater than 50% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).	30-50% mix of stable habitat; welf-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).	10-30% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.	Less than 10% stable habitat; lack of habitat is obvious; substrate unstable or lacking.
탕	SCORE	20 19 18 17 16	(19 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
d in sampling reach	2. Pool Substrate Characterization	Mixture of substrate materials, with gravel and firm sand prevalent; root mats and submerged vegetation common.	Mixture of soft sand, mud, or clay; mud may be dominant; some root mats and submerged vegetation present.	Ali mud or clay or sand bottom; little or no root mat, no submerged vegetation.	Hard-pan clay or bedrock; no root mat or vegetation.
ğ.	SCORE	20 19 18 17 16	15 14 13 12 11	10 (3) 8 7 6	5 4 3 2 1 0
Parameters to be evaluated	3. Pool Variability	Even mix of large- shallow, large-deep, small-shallow, small-deep pools present.	Majority of pools large- deep; very few shallow.	Shallow pools much more prevalent than deep pools.	Majority of pools small- shallow or pools absent.
	SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7(6)	5 4 3 2 1 0
Par	4. Sediment Deposition	Lintle or no enlargement of islands or point bars and less than <20% of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 20-50% of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel, sand or fine sediment on old and new bars; 50-80% of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; more than 80% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.
1	SCORE	20 19 18 17 16	15-14) 13 12 11	10 9 8 7 6	5 4 3 2 1 0
	5. Channel Flow Status	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.	Water fills >75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.
	SCORE	20 19 18 12 15	15 14 13 12 11	707 9 8 7 6	5 4 3 2 I 0

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (BACK)

[Habitat		Condition	Category			
	Parameter	Optimal _	Suboptimal	Marginal	Poor		
	6. Channel Alteration	Channelization or dredging absent or minimal; stream with normal pattern.	Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e., dredging, (greater than past 20 yr) may be present, but recent channelization is not present.	Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.	Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely.		
ij	SCORE	20 19 18 17 (16)	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0		
pjing reach	7. Channel Sinuosity	The bends in the stream increase the stream length 3 to 4 times longer than if it was in a straight line. (Note - channel braiding is considered normal in coastal plains and other low-lying areas. This parameter is not easily rated in these areas.)	The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.	The bends in the stream increase the stream length. I to 2 times longer than if it was in a straight line.	Channel straight; waterway has been channelized for a long distance.		
	SCORE	20 19 18 17 16	15 (4) 13 12 11	10 9 8 7 6	5 4 3 2 1 0		
Parameters to be evaluated broader than sampling reach	8, Bank Stability (score,each bank)	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30-60% of bank in reach has areas of erosion; high erosion potential during floods.	Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional sears.		
be eva	SCORE(LB) SCORE(RB)	Left Bank 10 (9) Right Bank 10 9	8 7 6 (3) 7 6	5 4 3	2 1 0		
Parameters t	9. Vegetative Protection (score each bank) Note: determine left or right side by facing downstream.	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.	70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.	50-70% of the streambank	Less than 50% of the streamback surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.		
	SCORE(LB)	Left Bank 10 9	8 7 (6)	5 4 3	2 1 0		
	10. Riparian Vegetative Zone Width (score each bank riparian zone)	Right Hank 10 (9) Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted zone.	Width of riparian zone 12- 18 meters; human activities have impacted zone only minimally.	Width of riparian zone 6- 12 meters; human activities have impacted zone a great deal.	Width of riparian zone <6 meters; little or no riparian vegetation due to human activities.		
\dagger	SCORE(LB)	Left Bank (10) 9	8 7 6	5 4 3	2 1 0		
1	SCORE(RB)	Right Bank (10) 9	8 7 6	5 4 3	2 1 0		

Total Score 136

BENTHIC MACROINVERTEBRATE FIELD DATA SHEET

STREAM NAME	166		إعفا	e il			Įı	OC.	ATIQI	N B	42	14	7	22					
STATION#			IMS				S	TRI	AM (LASS									
LAT	LO	NG			_		F	JVE	R BA	SIN							_		
STORET #							1	\GE	NCY										
INVESTIGATORS	£.	146	Ne.	4/	σ.	6	VaΣ	^ A	M/ 5	Fred	٠,	da	<u>, </u>	OT 1	NUMBER				
FORM COMPLETED	BY						Tr		E 3	28/07		,	R	EAS	ON FOR SURVEY	n 1	7	art	<u>, </u>
HABITAT TYPES	l ac	Cobi	ble			Ď	nag	s	%		get	t ated		. 4	_%	_%			_
SAMPLE COLLECTION	Ho Iso	w w	rere t te tin ble i	ibe s e wun ()		es c	ollec abs/s	ted? kick	ı take	wading n in each 2 V	hab	oitat ated	fron type Bank	es //	U □Sand %()			
GENERAL COMMENTS	M	re	hob.	/AT	th	*	yv	Tre.	in b	ut bia	4	lo_	<i>,</i>	E	indense of ocens	und,	maj	05	sayn
QUALITATIVE I Indicate estimated Dominant Periphyton Filamentous Algae Macrophytes) = A	l 1	2 2		Obse 4 4	· 	Slia	mes croi			-	o O	1 1 1	2	3 4
FIELD OBSERVA Indicate estimated				:	ACE 0 = /	ROE Abs	EN	TH Not	OS Obs	erved, 1	t = .	Rar			rganisms), 2 = Cor , 4 = Domínant (>	mmoi			s)
						_	_	_			_	_	_	_					
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Porifera Hydrozoa		l 1		3	4 4	Ar Zy	gop gop	tera tera	ı						Chironomidae Ephemeroptera	•	1 1	_	3 4
·	0	1	2	3	4	Zy	gop	tera		0	1	2	3	4		0	1	2	3
Hydrozoa	0	1	2	3	4	Zy He	gop	tera tera		0	1	2	3	4	Ephemeroptera	0	1	2	3
Hydrozoa Platyhelminthes	0 0	1	2	3 3	4	Zy He Co	mit gob	tera tera otera	ı	0	1	2	3	4	Ephemeroptera Trichoptera	0	1	2	3
Hydrozoa Platyhelminthes Turbellaria	0 0 0	1 1	2 2 2	3 3 3	4 4 4	Zy He Co Le	gop mip leoj	tera itera itera otera	ı	0	1 1 1	2 2 2	3 3 3	4 4	Ephemeroptera Trichoptera	0	1	2	3
Hydrozoa Platyhelminthes Turbellaria Hirudinea	0 0 0	1 1 1	2 2 2 2	3 3 3 3	4 4 4 4	Zy He Co Le Sia	gop mip leop pide	tera tera otera opte	i rai	0 0 0	1 1 1	2 2 2 2	3 3 3	4 4 4	Ephemeroptera Trichoptera	0	1	2	3
Hydrozoa Platyhelminthes Turbellaria Hirudinea Oligochaeta	0 0 0 0	1 1 1 1	2 2 2 2 2 2	3 3 3 3 3	4 4 4 4	Zy He Co Le Sia	gop miç leoj pide	tera tera otera opte alida	i rai	0 0 0 0	1 1 1 1 1	2 2 2 2 2	3 3 3 3 3	4 4 4 4 4	Ephemeroptera Trichoptera	0	1	2	3
Hydrozoa Platyhelminthes Turbellaria Hirudinea Oligochaeta	0 0 0 0	1 1 1 1	2 2 2 2 2 2 2 3	3 3 3 3 3	4 4 4 4	Zy He Co Le Sia Co	gop mip leop pide alida ryd	tera itera otera opte opte alida dae	a 	0 0 0 0 0	1 1 1 1	2 2 2 2 2 2	3 3 3 3 3	4 4 4 4 4	Ephemeroptera Trichoptera	0	1	2	3

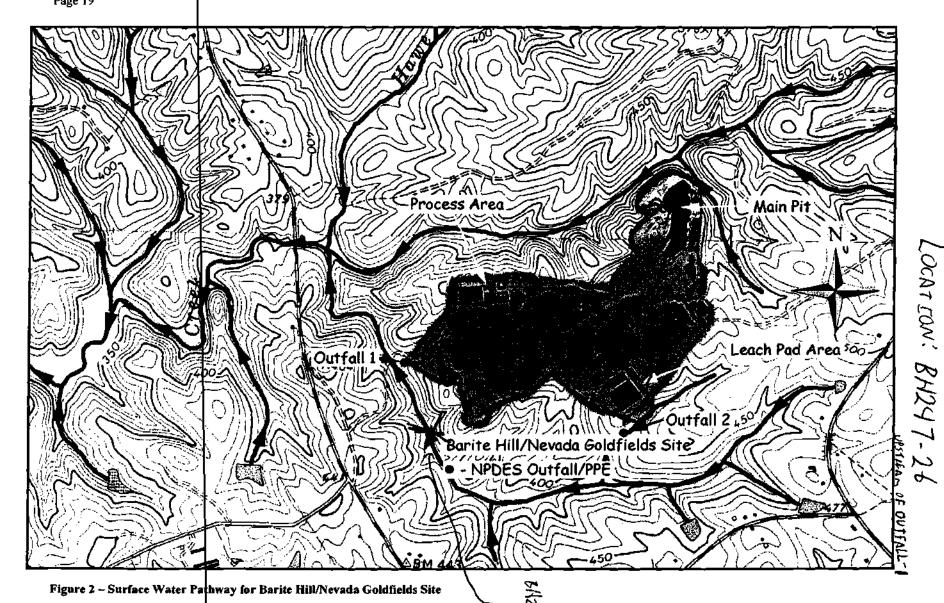
Rapid Bioassessment Protocols For Use in Streams and Wadeable Rivers: Periphyton, Benthic Macroinvertebrates, and Fish, Second Edition - Form 1

Tabinidae

Bivalvia

FINAL DRAFT

Barite Hill/Nevada Goldfields SCD 987 597 903 Page 19



(FRONT) UNITERM OF ONIPALL-1 LOCATION BH247-7 STREAM NAME STATION # RIVERMILE STREAM CLASS LONG RIVER BASIN STORET # AGENCY ERT | FISH & WILDLIFE | LEAC A HENRY NIGRO S. PREDERTCKS INVESTIGATORS GUSAAN. FORM COMPLETED BY REASON FOR SURVEY STEERN INPACT C. GUSSMAN BEN161CAL WEATHER CONDITIONS Now Past 24 eavy rain in the last 7 days? hours SUMMY, WARM storm (heavy rain) Air Temperature 16 °C (EST IMATED) 8 rain (steady rain) showers (intermittent) 9 %cloud cover clear/sunny SITE LOCATION/MAP Draw a map of the site and indicate the areas sampled (or attach a photograph) OPEN TREES, SITE 14247-26 STREAM CHARACTERIZATION Stream Type

② Coldwater Stream Subsys () Intermittent ☐ Tidat ○ Warmwater Stream Origin

Glacial
Non-glacial montane
Swamp and bog Catchment Area Spring-fed
Mixture of origins
Other

Rapid Bioassessment Protocols For Use in Streams and Wadeable Rivers: Periphyton, Benthic Macroinvertebrates, and Fish, Second Edition - Form 1

		Ŋ	ener.		(34247-26	
WATERSI FEATURE		Predom Porest Field/i Agrica Reside	mant Surrounding Land Commen Commen Pasture Olodustria Utural Other_ chial	cial L	Local Watershed NPS P No evidence OPS P Obvious sources Local Watershed Eresie None D Moderate	potential sources
RIPARIA) VEGETA (18 meter i	N FION buffer)		the dominant type and Shant species present			traceous GRANES / THRUS ON COUR
INSTREATURE		Estimat Samplin Area in Estimat	ed Reach Length ed Stream Width og Reach Area km² (m²x1000) ed Stream Depth 5—1 Velocity	m² km² m	Canopy Cover Canopy Cover Partiy open Partiy open Proportion of Reach Re Morphology Types Riffle Pool Channelized Ves Dam Present Cycs	.2_m presented by Stream Run_100_%
LARGE W	УООДУ		of LWDm	² /km² (LWD/ 1	reach area)	
AQUATIC VEGETATION Indicate the dominant type and record the dominant species present Rooted emergent Rooted submergent Rooted floating						
WATER (QUALITY	Specific Dissolve pH	conductance 0, 368 ed Oxygen 56 ty 3.7/V strument Used/\(\sigma \)		Water Odors G Normal/None Sewa Petroleum Fishy Water Surface Oils Slick Sheen Ohone Other Turbidity (if not mease Clear Slightly us Opaque Staued	Globs O Flecks
SEDIME: SUBSTRA		Oders Norm Chem Other Oile Abser	nal Sewage nical Anacrobic	<u> </u>	Leeking at stones whic are the undersides blac	D Paper fiber D Sand Other b are not deeply embedded, k in color?
INC		STRATE	COMPONENTS		ORGANIC SUBSTRATE C (does not necessarily add	
Substrate Type	Diamet	ter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock	<u> </u>		30	Detritus	sticks, wood, coarse plant materials (CPOM)	
Boulder	> 256 mm (10"				macrino (Cr Ohl)	<u> </u>
Cobble	64-256 mm (2.5	5"-10")	18	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-	2.5")	<u> 13</u>	<u> </u>		
Sand	0.06-2mm (gritt	ly)		Mari	grey, shell fragments	
Silt	0.004-0.06 mm			}	,	ļ .

A-6 Appendix A-1: Habitat Assessment and Physicochemical Characterization Field Data Sheets - Form 1

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (BACK)

	Habitat		Condition	Category			
ľ	Parameter	Optimal	Scheptimal	Marginal	<u> Poor </u>		
	6. Channel Alteration	Channelization or dredging absent or minimal; stream with normal pattern.	Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e., dredging, (greater than past 20 yr) may be present, but recent channelization is not present.	Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.	Banks shored with gabion or cernent; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely.		
	SCORE	29 (19) 18 17 16	13 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0		
upling reach	7. Chapnel Sinuosity	The bends in the stream increase the stream length 3 to 4 times longer than if it was in a straight line. (Note - channel braiding is considered normal in coastal plains and other low-tying areas. This parameter is not easily rated in these areas.)	The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.	The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.	Channel straight; waterway has been channelized for a long distance.		
tage (SCORE	20 19 (18) 17 16	13 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0		
Parameters to be evaluated broader than sampling reach	8. Bank Stability (score each bank)	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30- 60% of bank in reach has areas of erosion; high erosion potential during floods.	Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosiotal scars.		
o be eva	SCORE(LB) SCORE(RB)	Left Bank 10 9 Right Bank 10 9	8 7 6	5 4 3 5 4 3	2 1 0		
Parameters (9. Vegetative Protection (score each bank) Note: determine left or right side by facing downstream.	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or act evident; almost all plants allowed to grow naturally.	70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.		Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.		
	SCORE(LB)	Left Bank (0) 9	8 7 6	5 4 3	. 2 1 0		
}	SCORE(RB)	Right Bank 10 9	(8) 1 6	5 4 3	2 i 0:		
	10. Riparian Vegetative Zone Width (score each bank riparian zone)	Width of riparian zone >18 meters; human activities (i.e., parking lots, madbeds, clear-cuts, lawns, or crops) have not umpacted zone.	Width of riparian zone 12- 18 meters; human activities have impacted zone only minimally.	Width of riperian zone 6- 12 meters; human activities have impacted zone a great deal.	Width of riparian zone <6 meters: little or no riparian vegetation due to human activities.		
	SCORE(LB)	Left Bank (10) 9	8 7 6	5 4 3	2 1 0		
[SCORE(RB)	Right Bank 10 9	3 7 6	5 4 3	2 1 0		

BENTHIC MACROINVERTEBRATE FIELD DATA SHEET

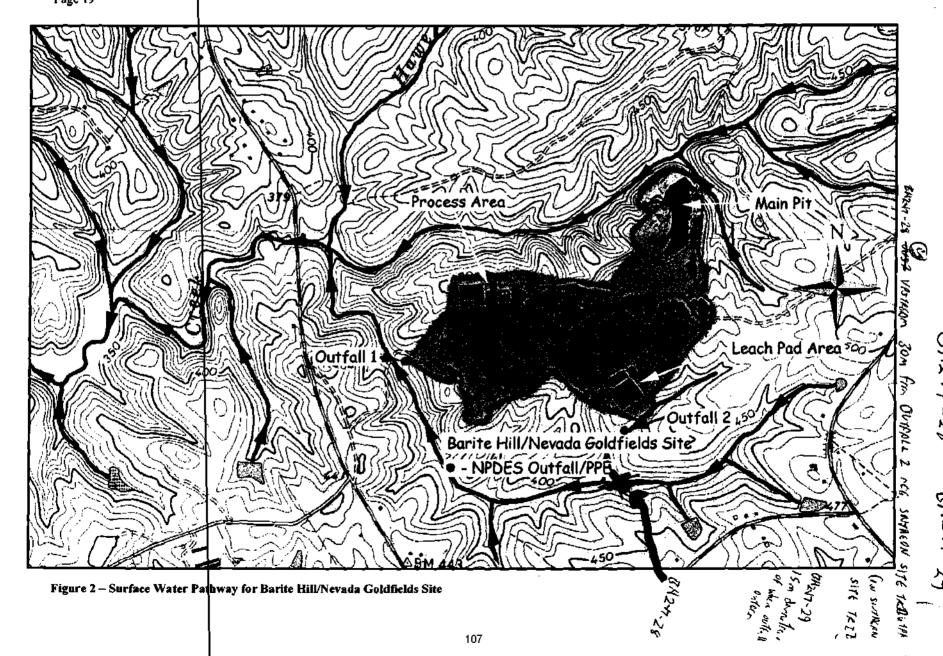
Gear used Deframe How were the samples ce Indicate the number of ja Cobble 50 OS Submerged Macrophyte	DATE 3/23 TIME 4/4 of each habitat typnags % S % Okick-net flected? / A w	Ea1 F SAU EAA FA FA Other (Other Carch habitat ty	REASON FOI Biological anks 30% super Septement rom bank rpe. anks 50	R SURVEY STAGA IMA O Sand			
A. HENRY C. C. W. Y. G. W. J. C. C. W. W. G. W. J. C.	AGENCY MAN M. Niga DATE 3/25 TIME 4/4 of each habitat type age % Ckick-net flected? 5 w abs/kicks taken in age	Ea1 F/s/LL 20/5. F460(arA 26/7 25. AM PM Pe present Vegetated B: 20 Other (Other	REASON FOI Biological anks 30% super Septement rom bank rpe. anks 50	Sand Grown boat			
Ginche the percentage of Cobble 30% QS Submerged Macrophytes Gear used D-frame How were the samples can indicate the number of jacoble 50 QS Submerged Macrophytes	DATE 3/23 TIME 4/4 of each habitat typnags % S % Okick-net flected? / A w	pe present Vegetated Be Cother (Cother	REASON FOI Biological anks 30% super Septement rom bank rpe. anks 50	Sand Grown boat			
Ginche the percentage of Cobble 30% QS Submerged Macrophytes Gear used D-frame How were the samples can indicate the number of jacoble 50 QS Submerged Macrophytes	DATE 3/23 TIME 4/4 of each habitat typnags % S % Okick-net flected? // A was a manage in manage // A was a was a manage // A was a was a manage // A was a was a was a was a manage // A was a	pe present Vegetated Be Other (Other _ wading Offi each habitat ty Vegetated Be	REASON FOI Biologica Sipt SECTION TO Trom bank Type.	Sand Sand			
indicate the percentage of Cobble 20% CS Submerged Macrophytes Gear used Deframe How were the samples countries the number of jacoble 50 CS Submerged Macrophyte	TIME 2/14 of each habitat typnags % 5 % O kick-net flected? / w abs/kicks taken in	pe present Vegetated Bi Other (Other vading	Biological anica 30% SAFT SECURCAT FORM bank TPE. anica 50	Sand Sand 30%			_
Cobble 30% QS Submerged Macrophyte Gear used D-frame How were the samples ca Indicate the number of ja Cobble 50 QS Submerged Macrophyte	nags% s% O kick-net flected? /6 w	Vegetated Bi D Other (Other _ wading Offi each habitat ty O Vegetated Bi	sof-1 sellerck1 rom bank rpe. anks 50)30%	%c		
How were the samples co Indicate the number of ja Cobble50	flected? ja w barkicks taken in mags	vading Cifi each habitat ty D Vegetated B:	rom bank pe. anks 9		7		
Indicate the number of ja Indicate the number o	/ bs/kicks taken in nags	each habitat ty	pe. anka <u>50</u>				
Cobble50 C/S USubmerged Macrophyte	nags	☐ Vegetated B:	anks 20	O Sand			
				· '——	•		
THIS COCATION M MOVING, LEAS RIFFLE	vell DIEFELEN u).	I TAAN P	PECUTOWY ZAC	1071UNS (DIGIT	52, 5200	KR	
bundance: 0 = Abse	nt/Not Observe	ed, 1 = Rare,	2 = Commo	n, 3= Abunds	0 I		3
0 1	2 3 4	Macroin	vertebrates		0 1	2	3 .
0_1	2 3 4	Fish			0_1	2	3 4
bundance: 0 = Abse	ent/Not Observe	red, 1 = Rare ant (>10 organ)
огдашя	20,,0 /104.141						
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	isoptera	0	3 4 J Chiro 3 4 J Epher		0 (1)		
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0 1 2 3 4 And O 1 2 3 4 Her Con O 1 2 3 4 En Con O 1 2 3 4 Sin O 1 2	isoptera goptera miptera deoptera pidoptera lidae rydatidae	0 1 2 0 1 2	3 4 Epher 3 4 Trich 3 4 Other 3 4 3 4 3 4	meroptera optera	0 (1)	2	3
3 1	TING OF AQUATIONS OF MACROBI	O 1 2 3 4 0 1 2 3 4 0 1 2 3 4 0 1 2 3 4	TING OF AQUATIC BIOTA bundance: 0 = Absent/Not Observed, 1 = Rare, 0 1 2 3 4 Slimes 0 1 2 3 4 Macroint 0 1 2 3 4 Fish IONS OF MACROBENTHOS	TING OF AQUATIC BIOTA bundance: 0 = Absent/Not Observed, 1 = Rare, 2 = Commo 0 1 2 3 4 Slimes 0 1 2 3 4 Macroinvertebrates 0 1 2 3 4 Fish IONS OF MACROBENTHOS	TENG OF AQUATIC BIOTA bundance: 0 = Absent/Not Observed, 1 = Rare, 2 = Common, 3 = Abunda 0 1 2 3 4 Slimes 0 1 2 3 4 Macroinvertebrates 0 1 2 3 4 Fish IONS OF MACROBENTHOS	TENG OF AQUATIC BIOTA bundance: 0 = Absent/Not Observed, 1 = Rare, 2 = Common, 3 = Abundant, 4 = 0. 0 1 2 3 4 Slimes 0 1 0 1 2 3 4 Macroinvertebrates 0 1 0 1 2 3 4 Fish 0 1 IONS OF MACROBENTHOS	TTING OF AQUATIC BIOTA bundance: 0 = Absent/Not Observed, 1 = Rare, 2 = Common, 3 = Abundant, 4 = 0. 0 1 2 3 4 Slimes 0 1 2 0 1 2 3 4 Macroinvertebrates 0 1 2 0 1 2 3 4 Fish 0 1 2

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A-25

FINAL DRAFT

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					7720 0112	<u> </u>	
WATERSI FEATURE		Forest D Field/I D Agricu	Pasture Industria	cial I	Local Watershed NPS I O No evidence O Some O Obvious sources		
ĺ		C Réside	ential		Local Watershed Erosi O None P Moderate	on Q Heavy	
RIPARIAI VEGETA (18 meter	Y FION buffer)		the dominant type and Sh	record the do rubs	minant species present O Grasses	baccous	
INSTREA FEATURE			ed Reach Length		Camepy Cover C) Partly open C) Partly	y shaded 🔾 Shaded	
			ig Reach Area		High Water Mark _	n	
		Area in	T CV A	km²	Preportion of Reach Romerphology Types O Riffle 55 % O O Pool 76 %	epresented by Stream Run%	
]		ľ	Velocitym		Channelized	O No	
[(at thalv			Dam Present OYes	J Ž rNo	
LARGE V	VOODY	LWD Density	m² MU	cH 068 <i>f</i> 2 ²/km² (LWD)	(LOGS/ZLANCES)		
AQUATIC VEGETA	TION	🔾 Floati	ng Algae 😘 🛣 At	tached Algae	_	C Free floating	
ŀ	. '	domina	nt species present	ome ATTAG	act algae, sp. unlina	√1\·	
Pertion of the reach with aquatic vegetation%							
WATER (QUALITY	Specific	ature 18,67°C Conductance 0,221			age Chemical Other	
	!	рН <u>7.</u>			Water Surface Oils O Slick O Sheen O None O Other 54	Globs G Flecks	
			ty <u>0.9</u> trument Used <u>WSZ</u>	<u> </u>	Turbidity (if not measu ☐ Clear ☐ Stightly to ☐ Opaque ☐ Stained	red) rbid Turbid Other	
SEDIMEN SUBSTRA		Chem	Odors Polymai				
		Oila	nt 🔾 Slight 🔾 Modera	le O Profis	Looking at stones which are the undersides black CI Yes in No.	h are not deeply embedded, k in color?	
INC	ORGANIC SUB: (should a	STRATE	COMPONENTS		ORGANIC SUBSTRATE C	OMPONENTS up to 100%)	
Substrate Type	Diarnet	ег	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area	
Bedrock				Detritus	sticks, wood, coarse plant materials (CPOM)	309,	
Boulder	> 256 m <u>rn (10**</u>			 =			
Cobble	64-256 mm (2.5			Muck-Mud	black, very fine organic (FPOM)	}	
Gravel	2-64 mm (0.1"-			 	<u> </u>	<u> </u>	
Sand	0.06-2mm (grit			Mari	grey, shell fragments		
Silt	0.004-0.06 mm		5	!			
Clay_	< 0.004 mm (sli	ick) _	90	L	l	l .	

HABITAT ASSESSMENT FIELD DATA SHEET-LOW GRADIENT STREAMS (FRONT)

ſ	STREAM NAME		LOCATION BH147-28	J 8H2H7-29
- [STATION #	RIVERMILE	STREAM CLASS	
11-24	LAT	LONG	RIVER BASIN	
	STORET#		AGENCY ELI PEAC	
	INVESTIGATORS	3. HENRY / M. NI	GAD / G. GIDSMAN	
ı	FORM COMPLETED B		DATE 3/18/07	REASON FOR SURVEY Biological Syrfan Impact

	Habitat		Condition	Category	
1 1	Parameter	Optimal	Suboptimal	Marginal	Poor
	Epifaunal Substrate/ Available Cover	Greater than 50% of substrate favorable for epifaunal colonization and fish cover, mix of snags, submerged logs, undercur banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).	30-50% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).	10-30% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.	Less than 10% stable habitat; lack of habitat is obvious; substrate unstable or lacking.
49 CP	SCORE	20 19 18 17 16	15 14 13 12) 11	10 9 8 7 6	5 4 3 2 1 0
Sembling	2. Pool Substrate Characterization	Mixture of substrate materials, with gravel and firm sand prevalent, root mats and submerged vegetation common.	Mixture of soft sand, mud, or clay, mud may be dominant; some root mats and submerged vegetation present.	All mud or clay or sand bottom; little or no root mat; no submerged vegetation.	Hard-pan clay or bedrock; no root mat or vegetation.
	SCORE	20 19 18 17 16	15 14 15 12 11	10 9 8 7 6	5 4 3 2 1 0
rs to be evaluated in	3, Pool Variability	Even mix of large- shallow, large-deep, small-shallow, small-deep pools present.	Majority of pools large- deep; very few shallow.	Shallow pools much more prevalent than deep pools.	Majority of pools small- shallow or pools absent.
Parameters	SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5) 4 3 2 1 0
Para	4. Sediment Deposition	Little or no enlargement of islands or point bars and less than <20% of the bottom affected by sediment deposition.	Some new increase in bar formation, mostly from gravel, sand or fine sediment; 20-50% of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel, sand or fine sediment on old and new bars; 50-80% of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; more than 80% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.
	SCORE	20 19 18 17 16	15 14 13 12 11	10) 9 8 7 6	5 4 3 2 1 0
	5. Channel Flow Status	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed.	Water fills >75% of the available channel; or <25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.
	SCORE	20 19 18 17 16	15 14 13 12 11	10 9 (8) 7 6	5 4 3 2 1 0

HABITAT ASSESSMENT FIELD DATA SHEET—LOW GRADIENT STREAMS (BACK)

	Habitat		Condition	Category		
Í	Parameter	Optimal	Saboptimal	Marginal	Poor_	
	6. Channet Alteration	Channelization or dredging absent or minimal; stream with normal pattern.	Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e., dredging, (greater than past 20 yr) may be present, but recent channelization is not present.	Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.	Banks shored with gabion or cerneut; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely.	
	SCORE	20 19 18 (17) 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0	
ing reach	7. Channel Sinuosity	The bends in the stream increase the stream length 3 to 4 times longer than if it was in a straight line. (Note - channel braiding is considered normal in coastal plains and other low-lying areas. This parameter is not easily rated in these areas.)	The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.	The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.	Channel straight; waterway has been channelized for a long distance.	
1	SCORE	20 19 18 17 16	15 14 13 (12) 11	19 9 8 7 6	5 4 3 2 1 0	
Parameters to he evaluated broader than sampling reach	8. Bank Stability (score each bank)	Banks stable; evidence of crosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30- 60% of bank in reach has areas of erosion; high erosion potential during floods.	Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.	
	SCORE(LB)	Left Bank 10 9	8 (72 6	5 4 3	2 1 0	
to be	SCORE(RB)	Right Bank 10 9	8 7 6	5 4 3	2 1 0	
Parameters	9. Vegetative Protection (score each bank) Note: determine left or right side by facing downstream,	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory strubs, or nonwoody macrophytes; vegetative disruptions through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.	70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.	50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.	Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.	
	SCORE (LB)	Left Bank 10 9		5 4 3	2 1 0	
	SCORE (RB)	Right Hank 10 9	8 7 6	5 4 3	2 1 0	
	it. Riparian Vegetative Zone Width (score each bank riparian zone)	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not angacted zone.	Width of riparian zone 12- 18 meters; human activities have impacted zone only minimally.	Width of riparian zone 6- 12 meters; human activities have impacted zone a great deal.	Width of riparian zone <6 meters: little or no riparian vegetation due to human activities.	
	SCORE(LB)	Left Bank (0) 9	8 7 6	5 4 3	2 1 0	
		Right Bank 10 9	8 7 6	5 4 3	2 1 0	

Total Score 129

418 81 129

BENTHIC MACROINVERTEBRATE FIELD DATA SHEET

STREAM NAME		LOCATION 042-17 27 2 842-1729						
STATION#	RIVERMILE	STREAM CLASS						
LAT	LONG	RIVER BASIN	_					
STORET #		AGENCY PLAC	FAW/ER	 				
INVESTIGATORS		 	7	NUMBER				
FORM COMPLETED	namen Ba	DATE 1/21/01 TIME 6/10 A		ASON FOR SURVEY	<u> </u>			
HABITAT TYPES	Indicate the percentage Cobble 7.% Submerged Macrophyte	of each habitat type pressonags 20 % Q Veg	ent etated Banks Other (<u>{0</u> % □ Sand <u>}</u>	<u>'6 %</u>			
SAMPLE	Gear used 🖒 D-frame	Okick-net O	Other	_	_			
COLLECTION	How were the samples o	•Dected? Dwading	O from t	ank 🔾 from bo	at			
	☐ Submerged Macrophyte		Other ()				
GENERAL	shallow NAT	ER, MAK LOGI	/bebus	10 pm office 1	NGS.	,		
COMMENTS		occurs A Ls1 of	7776 V	VATGE OVLING 3	16LM	EV	6N'	D .
Indicate estimated	MA PLIVABLY A ISTING OF AQUATI abundance: 0 = Abso	C BIOTA ant/Not Observed, 1=	Rare, 2 =			_		D .
QUALITATIVE 1 Indicate estimated Dominant	MAN PLUMBLY ISTING OF AQUATI abundance: 0 = Abso	OCCUPATE LIT OF IC BIOTA INTERPORT OBSERVED, 1= SANDER, SLIFT	Rare, 2 =		odant,	4=	·	
QUALITATIVE 1 Indicate estimated Dominant Periphyton	MAN PLIVABLY ASTING OF AQUATI Abundance: 0 = Absorption ANALIPATION 0 1	C BIOTA ont/Not Observed, 1= SANOGO, Shillow 2 3 4 S	Rare, 2 = 10/16/1	Common, 3= Abu	odant,	4=	2	3 4
QUALITATIVE 1 Indicate estimated Dominant	MAN PLIVABLY ASTING OF AQUATI Abundance: 0 = Absorption ANALIPATION 0 1	C BIOTA mt/Not Observed, 1= SANDED, Shillow 2 3 4 S 2 3 4 M	Rare, 2 =	Common, 3= Abu	odant,	4=	·	3 4
QUALITATIVE 1 Indicate estimated Dominant Periphyton Filamentous Algae Macrophytes FIELD OBSERVA Indicate estimated	JISTING OF AQUATIONS OF MACROE ATIONS OF MACROE Abundance: 0 - Abs	CE BIOTA ant/Not Observed, 1= SANOGO, SLIII 2 3 4 S 2 3 4 M 2 3 4 F SENTHOS	Rare, 2 = Wolfelt limes Accroinverte ish Rare (1-3	Common, 3- Abus brates organisms), 2 = Co	odant,	1 1 1 (3-	2 2 2	3 4 3 4 3 4
QUALITATIVE I Indicate estimated Dominant Periphyton Filamentous Algae Macrophytes FIELD OBSERVA Indicate estimated OA247-29	ACA PLUABLY ASTING OF AQUATI abundance: 0 = Absorb 0 1 0 1 0 1 0 1 actions of MACROF abundance: 0 = Absorb organis	CE BIOTA ICHINO Observed, 1= SANDO SLII 2 3 4 S 2 3 4 M 2 3 4 F BENTHOS eat/Not Observed, 1= ms), 3= Abundant (>1	Rare, 2 = Wolfelt Climes Macroinverte Sish Rare (1-3	brates organisms), 2 = Cos), 4 = Dominant (odaut, 0 0 0	1 1 1 (3-	2 2 2 2	3 4 3 4 3 4
QUALITATIVE I Indicate estimated Dominant Periphyton Filamentous Algae Macrophytes FIELD OBSERVA Indicate estimated OA 247-2 9 Porifera	JISTING OF AQUATI Abundance: 0 = Absorb O 1 O 1 O 1 ATIONS OF MACROE I abundance: 0 = Absorb organis	C BIOTA mt/Not Observed, 1= SANDED, SLAII 2 3 4 S 2 3 4 M 2 3 4 F SENTHOS ent/Not Observed, 1: ms), 3= Abundant (>1 misoptera 0	Rare, 2 = Wolfell limes facroinverte ish Rare (1-3) 0 organism	Common, 3= Abustonian brates organisms), 2 = Cos), 4 = Dominant (commondae)	odant, O O O O O O O O O O O O O O O O O O	1 1 1 1 (3-gan	2 2 2 2 9	3 4 3 4 3 4 5)
QUALITATIVE I Indicate estimated Dominant Periphyton Filamentous Algae Macrophytes FIELD OBSERVA Indicate estimated UA247-2 9 Porifera Hydrozoa	JISTING OF AQUATI Abundance: 0 = Absorb ATIONS OF MACROE abundance: 0 = Absorb organis 0 1 2 3 4 Ar 0 1 2 3 4 Zy	C BIOTA mt/Not Observed, 1= SANDED, SLAII 2 3 4 S 2 3 4 M 2 3 4 F SENTROS ent/Not Observed, 1: ms), 3= Abundant (>1 misoptera 0 goptera 0	Rare, 2 = Wolfelt limes facroinverte ish Rare (1-3) 0 organism 1 2 3 1 2 3	brates organisms), 2 = Cos), 4 - Dominant (Chironomidae Ephemeroptera	odaut, O O O O O O O O O O O O O O	4 = 1 1 1 1 (3-gan 1 1 1	2 2 2 2 2 2 2 2 2	3 4 3 4 3 4 3 4 3 4 3 4 3 4 3 4 3 4 3 4
QUALITATIVE I Indicate estimated Dominant Periphyton Filamentous Algae Macrophytes FIELD OBSERVA Indicate estimated ### Partifera Hydrozoa Platyhelminthes	ATIONS OF MACROFI abundance: 0 = Absorbabundance: 0	C BIOTA mt/Not Observed, 1= SANDED, Shillow 2 3 4 S 2 3 4 M 2 3 4 F BENTHOS ent/Not Observed, 1: ms), 3= Abundant (>1 msoptera 0 goptera 0 emiptera 0	Rare, 2 = Wolfelt limes Accroinverte ish Rare (1-3) 0 organism 1 2 3 1 2 3 1 2 3	brates organisms), 2 = Cos), 4 = Dominant (Chironomidae Ephemeroptera Trichoptera	odaut, 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 1 (3-rgan	2 2 2 2 2 2 2 2 2 2	3 4 3 4 3 4 3 4 3 3 4 3 3 4
QUALITATIVE I Indicate estimated Dominant Periphyton Filamentous Algae Macrophytes FIELD OBSERVA Indicate estimated ### CARPACTOR Porifera Hydrozoa Platyhelminthes Turbellaria	ATIONS OF MACROE 1	C BIOTA Int/Not Observed, 1= SANDED, SLIII 2 3 4 S 2 3 4 M 2 3 4 F BENTHOS ent/Not Observed, 1: ms), 3= Abundant (>1 misoptera 0 miptera 0	Rare, 2 = Wolfelt Himes Accroinverte Sish Rare (1-3) 10 organism 1 2 3 1 2 3 1 2 3 1 2 3	brates organisms), 2 = Cos), 4 = Dominant (State Ephemeroptera Trichoptera Other	odaut, O O O O O O O O O O O O O O	4 = 1 1 1 1 (3-gan 1 1 1	2 2 2 2 2 2 2 2 2	3 4 3 4 3 4 3 4 3 4 3 4 3 4 3 4 3 4 3 4
QUALITATIVE I Indicate estimated Dominant Periphyton Filamentous Algae Macrophytes FIELD OBSERVA Indicate estimated ### Provided Application ### Provide	ATIONS OF MACROE abundance: 0 = Absorb ATIONS OF MACROE abundance: 0 = Absorb ATIONS OF MACROE abundance: 0 = Absorb O 1 2 3 4 Ar O 1 2 3 4 He O 1 2 3 4 Le O 1 2 3 4 Le	CC BIOTA ent/Not Observed, 1= SANDED, SLA// 2 3 4 S 2 3 4 M 2 3 4 F RENTROS ent/Not Observed, 1: ms), 3= Abundant (>1 misoptera 0 emiptera 0	Rare, 2 = wolf! Slimes Accroinverterish Rare (1-3) 0 organism 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3	brates organisms), 2 = Coss, 4 - Dominant (Chironomidae Ephemeroptera Trichoptera Other	odaut, 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 1 (3-rgan	2 2 2 2 2 2 2 2 2 2	3 4 3 4 3 4 3 4 3 3 4 3 3 4
QUALITATIVE I Indicate estimated Dominant Periphyton Filamentous Algae Macrophytes FIELD OBSERVA Indicate estimated ### Proving Algae Platyle Platyle Platyle Platyle Platyle Turbellaria Hirudinea Oligochaeta	ATIONS OF MACROE abundance: 0 = Absorb ATIONS OF MACROE abundance: 0 = Absorb ATIONS OF MACROE abundance: 0 = Absorb ATIONS OF MACROE 0 1 2 3 4 Ar 0	CC BIOTA ant/Not Observed, 1= SANDED, SLA// 2 3 4 S 2 3 4 M 2 3 4 F RENTHOS ent/Not Observed, 1- ms), 3- Abundant (>1 misoptera 0 emiptera 0	Rare, 2 = 6 1 2 3 1 3 3 1 3 3 3 3 3	brates organisms), 2 = Coss), 4 - Dominant (Chironomidae Ephemeroptera Trichoptera Other	odaut, 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 1 (3-rgan	2 2 2 2 2 2 2 2 2 2	3 4 3 4 3 4 3 4 3 3 4 3 3 4
QUALITATIVE I Indicate estimated Dominant Periphyton Filamentous Algae Macrophytes FIELD OBSERVA Indicate estimated OA247-29 Porifera Hydrozoa Platyhelminthes Turbellaria Hirudinea Oligochaeta -Isopoda	MAN PLOUABLY	C BIOTA Int/Not Observed, 1= SANDED, SLA// 2 3 4 S 2 3 4 M 2 3 4 F SENTHOS ent/Not Observed, 1: misoptera 0 misoptera 0 miptera 0 mipt	Rare, 2 = 6 Wolfel Climes Macroinverter Climes Macroinverter Climes Macroinverter Macroinverte	brates organisms), 2 = Coss, 4 - Dominant (Chironomidae Ephemeroptera Trichoptera Other	odaut, 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 1 (3-rgan	2 2 2 2 2 2 2 2 2 2	3 4 3 4 3 4 3 4 3 3 4 3 3 4
QUALITATIVE I Indicate estimated Dominant Periphyton Filamentous Algae Macrophytes FIELD OBSERVA Indicate estimated OA 247~2 9 Porifera Hydrozoa Platyhelminthes Turbellaria Hirudinea Oligochaeta -Isopoda -Amphipoda	ACA PLOUABLY	C BIOTA mt/Not Observed, 1= SANDED, Shillow 2 3 4 S 2 3 4 M 2 3 4 F EENTHOS emt/Not Observed, 1: ms), 3= Abundant (>1 misoptera 0 goptera 0 emiptera 0 emiptera 0 pidoptera 0 p	Rare, 2 = W/66 limes facroinverte ish Rare (1-3) 0 organism 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3	brates organisms), 2 = Cos), 4 = Dominant (3) Chironomidae Ephemeroptera Trichoptera Other	odaut, 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 1 (3-rgan	2 2 2 2 2 2 2 2 2 2	3 4 3 4 3 4 3 4 3 3 4 3 3 4
QUALITATIVE I Indicate estimated Dominant Periphyton Filamentous Algae Macrophytes FIELD OBSERVA Indicate estimated ### Comparison ### Com	AGN PLOUADLY	C BIOTA Int/Not Observed, 1= SANDED, SLillow 2 3 4 S 2 3 4 M 2 3 4 F BENTHOS ent/Not Observed, 1: ms), 3= Abundant (>1 misoptera 0 miptera 0 mip	Rare, 2 = Weller State	common, 3- Abundantes organisms), 2 = Common (common date) Chironomidae Ephemeroptera Trichoptera Other	odaut, 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 1 (3-rgan	2 2 2 2 2 2 2 2 2 2	3 4 3 4 3 4 3 4 3 3 4 3 3 4
QUALITATIVE I Indicate estimated Dominant Periphyton Filamentous Algae Macrophytes FIELD OBSERVA Indicate estimated OA 247~2 9 Porifera Hydrozoa Platyhelminthes Turbellaria Hirudinea Oligochaeta -Isopoda -Amphipoda	AGN PLOUADLY	C BIOTA Int/Not Observed, 1= SANDEC, SLillow 2 3 4 S 2 3 4 M 2 3 4 F BENTHOS ent/Not Observed, 1- ms), 3- Abundant (>1 misoptera 0 miptera 0	Rare, 2 = wolf	common, 3- Abustonian de Ephemeroptera Trichoptera Other	odaut, 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 1 (3-rgan	2 2 2 2 2 2 2 2 2 2	3 4 3 4 3 4 3 4 3 3 4 3 3 4

Rapid Bioassessment Protocols For Use in Streams and Wadeable Rivers: Periphyton, Benthic Macroinvertebrates, and Fish, Second Edition - Form 1

APPENDIX B
FINAL ANALYTICAL RESULTS REPORT
BARITE HILL GOLD MINE
TRIP REPORT
JUNE 2007



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY Region 4 Science and Ecosystem Support Division

980 College Station Road, Athens, Georgia 30605-2700

May 9, 2007

4SESD-MTSB

MEMORANDUM

SUBJECT:

FINAL Analytical Report

07-0377, Barite Hill/Nevada Goldfields

Superfund Emergency Response and Removal

FROM:

Denise Goddard

Quality Assurance Section Chemist

THRU:

Marilyn Maycock, Chief

Quality Assurance Section

TO:

Leo Francendese

Attached are the final results for the analytical groups listed below. These analyses were performed in accordance with the associated contract Statement Of Work (SOW). In general, project data quality objectives have not been used to evaluate these data prior to release by the Quality Assurance Section. For a listing of specific data qualifiers and explanations, please refer to the Data Qualifier Definitions included in this report.

Analyses included in this report:

Method Used:

Classical/Nutrient Analyses (CNA)

Cyanide Cyanide Cyanide CLP Inorganics CLSOW CN WAD CLSOW CN WAD

Total Metals (TMTL)

Total Mercury Total Metals CLP Inorganics

CLP Inorganics



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Report Narrative

Data Review and Validation Report

Site Name: Barite Hills/Nevada Goldfields, McCormick, SC Case No. 36293, Project No. 07-0377, Work Order No. C071601

ELEMENT Nos. C071601-01 - C071601-89

Inorganic Analysis: Bonner Analytical Testing, Hattiesburg, MS

Date Received from Lab: 04/20/07

The ESAT Work Team has reviewed the above-captioned CLP data package consisting of 18 water and 71 soil samples for Total Metals analysis by ICP-AES and cyanide analysis by SOW ILM05.3, according to the contract Statement of Work and EPA guidelines. This package presents acceptable contractual and technical performance with qualifications. Further details are provided below and in the attached review summary form.

ICP-AES Analysis

Examination of blank samples revealed apparent low-level contamination with several elements listed in Table 1. Reported detection limits were adjusted as high as five times blank levels to discount possible false positives due to contamination.

Positives greater than the contract required quantitation limit were reported for arsenic in the water contractor interference check sample solution A (ICSA) for SDG MD3ZK6. The above positives were suspected of being due to interference from aluminum and/or iron. All positive water samples for arsenic in SDG MD3ZK6 less than 170 ug/L in solution, with aluminum and/or iron concentrations in solution greater than 39,000 ug/L were considered estimated and flagged "J". Negative sample results with absolute values greater than the contract required quantitation limit were reported for lead in the water contractor ICSA solution for SDG MD3ZK6. The above negatives were suspected of being due to over-correction for the influence of aluminum and/or iron. All positive water sample results for lead in SDG MD3ZK6 with aluminum and/or iron greater than 85,000 ug/L were considered estimated and flagged "J". All non-detected water sample results for lead in SDG MD3ZK6 with aluminum and/or iron concentrations in solution greater than 85,000 ug/L were considered unusable and flagged "R".

Soil matrix spiked sample recoveries for antimony and arsenic in SDG MD3ZK8 were 54 and 73% respectively. All soil sample results for antimony and arsenic in the above SDG were considered estimated and flagged "J".

Soil matrix spiked sample recovery for copper in SDG MD3Zk8 was 5%. All positive soil sampler results for copper in the above SDG were considered estimated and flagged "J". All non-detected soil sample results for copper were considered unusable and flagged "R".

Soil matrix spiked sample recovery for lead in SDG MD3ZK8 was 134%. In addition, the soil matrix duplicate relative percent difference for lead in SDG MD3ZK8 was 47%. All soil sample results for lead in the above

C071601 FINAL



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

SDG were considered estimated and flagged "J".

Soil matrix spiked sample recovery for antimony in SDG MD3ZN7 was 74%. All soil sample results for antimony in the above SDG were considered estimated and flagged "J".

Soil matrix duplicate relative percent difference for manganese in SDG MD3ZK8 was 69%. All soil sample results for manganese in the above SDG were considered estimated and flagged "J".

Soil performance evaluation sample recovery for copper was scored as warning high by the web-based SPS Web software. All positive soil sample results for copper were considered estimated and flagged "J".

Water serial dilution percent difference for potassium in SDG MD3ZK6 was 17%. All water sample results for potassium in the above SDG were considered estimated and flagged "J".

Soil serial dilution percent difference for zinc in SDG MD3ZK8 was 19%. All soil sample results for zinc in the above SDG were considered estimated and flagged "J".

Soil serial dilution percent differences for aluminum and zinc in SDG MD3ZN7 were 14 and 29% respectively. All soil sample results for aluminum and zinc in the above SDG were considered estimated and flagged "J".

Percent relative standard deviations were greater than 20% for plasma multiple exposures and reported results were greater than the method detection limit, but less than the contract required quantitation limit for arsenic in samples C071601-02, 09, 14, 19, and 37, cadmium in samples C071601-23, 29, 37, and 39, and silver in sample C071601-31. The above sample results were suspected of being potential false positives and, hence, unusable and flagged "R".

Mercury Analysis

Soil matrix spiked sample recovery for mercury in SDG MD3ZN7 was 72%. All soil sample results for mercury in the above SDG were considered estimated and flagged "J".

Cyanide Analysis

Soil matrix spiked sample recovery for cyanide in SDG MD3ZN7 was 8%. All positive soil sample results for cyanide in the above SDG were considered estimated and flagged "J". All non-detected soil sample results for cyanide in the above SDG were considered unusable and flagged "R".

Soil matrix spiked sample recovery for cyanide in SDG MD3ZS0 was 33%. All soil sample results for cyanide in the above SDG were considered estimated and flagged "J".

C071601 FINAL



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

cc: Nardina Turner



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

SAMPLES INCLUDED IN THIS REPORT

Project: 07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

Sample ID	Laboratory ID	MD#	D#	Matrix	Date Collected	Date Received
PE BLANK	C071601-01	3Z1.0		Water	3/28/07 09:50	3/29/07 14:18
FL-a	C071601-02	3ZL1		Surface Water	3/28/07 09:50	3/29/07 14:18
FL-b	C071601-03	3ZL2		Surface Water	3/28/07 09:50	3/29/07 14:18
GL-a	C071601-04	3ZL3		Surface Water	3/28/07 11:24	3/29/07 14:18
GL-b	C071601-05	3ZL4		Surface Water	3/28/07 11:24	3/29/07 14:18
HL-a	C071601-06	3ZL5		Surface Water	3/28/07 12:30	3/29/07 14:18
HIb	C071601-07	3ZL6		Surface Water	3/28/07 12:30	3/29/07 14:18
ZL-b	C071601-08	3ZS1		Surface Water	3/27/07 09:50	3/29/07 14:18
ZL-a	C071601-09	3ZT2		Water	3/27/07 09:50	3/29/07 14:18
AL-a	C071601-10	3ZT7		Surface Water	3/27/07 09:50	3/29/07 14:18
AL-b	C071601-11	3ZT8		Surface Water	3/27/07 09:50	3/29/07 14:18
BL-a	C071601-12	3ZT9		Surface Water	3/27/07 10:45	3/29/07 14:18
BL-b	C071601-13	3ZW0		Surface Water	3/27/07 10:45	3/29/07 14:18
CL-a	C071601-14	3ZW1		Surface Water	3/27/07 11:20	3/29/07 14:18
CL-b	C071601-15	3ZW2		Surface Water	3/27/07 11:20	3/29/07 14:18
DL-a	C071601-16	3ZW3		Surface Water	3/27/07 12:51	3/29/07 14:18
DL-b	C071601-17	3ZW4		Surface Water	3/27/07 12:51	3/29/07 14:18
BH247-1	C071601-18	3ZL7		Sediment	3/27/07 08:59	3/29/07 14:18
BH247-13	C071601-19	3ZL8		Sediment	3/27/07 11:34	3/29/07 14:18
BH247-17	C071601-20	3Z.L9		Sediment	3/27/07 11:46	3/29/07 14:18
BH247-18	C071601-21	3ZM0		Sediment	3/27/07 11:50	3/29/07 14:18
BH247-19	C071601-22	3ZM1		Sediment	3/27/07 12:02	3/29/07 14:18
BH247-20	C071601-23	3ZM2		Sediment	3/28/07 08:59	3/29/07 14:18
BH247-21	C071601-24	3ZM3		Sediment	3/28/07 09:12	3/29/07 14:18
BH247-22		3ZM4		Sediment	3/28/07 09:34	3/29/07 14:18
BH247-25	C071601-26	3ZM5		Sediment	3/28/07 09:50	3/29/07 14:18
BH247-26	C071601-27	3ZM6		Sediment	3/28/07 10:10	3/29/07 14:18
BH247-27	C071601-28	3ZM7		Sediment	3/28/07 10:26	3/29/07 14:18
BH247-28	C071601-29	3ZM8		Sediment	3/28/07 10:58	3/29/07 14:18
BH247-29	C071601-30	3 Z M9		Sediment	3/28/07 11:24	3/29/07 14:18
BH247-3	C071601-31	3 Z N0		Sediment	3/27/07 09:00	3/29/07 14:18
BH247-5	C071601-32	3ZN1		Sediment	3/27/07 09:10	3/29/07 14:18
BH247-521	C071601-33	3ZN2		Sediment	3/28/07 09:15	3/29/07 14:18
BH247-525	C071601-34	3ZN3		Sediment	3/28/07 09:55 -	3/29/07 14:18



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

BH247-529	C071601-35	3ZN4	Sediment	3/28/07 11:30	3/29/07 14:18
BH247-6	C071601-36	3ZN5	Sediment	3/27/07 09:30	3/29/07 14:18
BH247-7	C071601-37	3ZN6	Sediment	3/27/07 10:13	3/29/07 14:18
BH247-8	C071601-38	3ZN7	Sediment	3/27/07 10:45	3/29/07 14:18
Heap Leach Pile Crust	C071601-39	3ZN8	Sediment	3/28/07 11:45	3/29/07 14:18
INDGOT Room Pit	C071601-40	3ZN9	Sediment	3/28/07 15:00	3/29/07 14:18
Pond A	C071601-41	3ZP0	Sediment	3/27/07 08:59	3/29/07 14:18
Pond B	C071601-42	3ZP1	Sediment	3/27/07 10:00	3/29/07 14:18
Pond C	C071601-43	3ZP2	Sediment	3/27/07 11:15	3/29/07 14:18
Pond D	C071601-44	3ZP3	Sediment	3/27/07 11:45	3/29/07 14:18
Pond E	C071601-45	3ZP4	Sediment	3/27/07 12:15	3/29/07 14:18
Pond F	C071601-46	3ZP5	Sediment	3/27/07 12:30	3/29/07 14:18
Pond G	C071601-47	3 ZP 6	Sediment	3/28/07 13:24	3/29/07 14:18
Pond H	C071601-48	3ZP7	Sediment	3/28/07 13:55	3/29/07 14:18
Pond I	C071601-49	3ZP8	Sediment	3/28/07 14:39	3/29/07: 14:18
White Pile	C071601-50	3ZP9	Sediment	3/28/07 10:25	3/29/07 14:18
BH247-1	C071601-51	3ZQ0	Sediment	3/27/07 08:59	3/29/07 14:18
BH247-13	C071601-52	3ZQ1	Sediment	3/27/07 11:34	3/29/07 14:18
BH247-17	C071601-53	3ZQ2	Sediment	3/27/07 11:46	3/29/07 14:18
BH247-18	C071601-54	3ZQ3	Sediment	3/27/07 11:50	3/29/07 14:18
BH247-19	C071601-55	3ZQ4	Sediment	3/27/07 12:02	3/29/07 14:18
BH247-20	C071601-56	3ZQ5	Sediment	3/28/07 08:59	3/29/07 14:18
BH247-21	C071601-57	3ZQ6	Sediment	3/28/07 09:12	3/29/07 14:18
BH247-22	C071601-58	3ZQ7	Sediment	3/28/07 09:34	3/29/07 14:18
BH247-25	C071601-59	3ZQ8	Sediment	3/28/07 09:50	3/29/07 14:18
BH247-26	C071601-60	3ZQ9	Sediment	3/28/07 10:10	3/29/07 14:18
BH247-27	C071601-61	32R0	Sediment	3/28/07 10:26	3/29/07 14:18
BH247-28	C071601-62	3ZR1	Sediment	3/28/07 10:58	3/29/07 14:18
BH247-29	C071601-63	3ZR2	Sediment	3/28/07 11:24	3/29/07 14:18
BH247-3	C071601-64	3ZR3	Sediment	3/27/07 09:00	3/29/07 14:18
BH247-5	<u>Ç071601-65</u>	3ZR4_	Sediment	3/27/07 09:10	3/29/07 14·18
BH247-521	C071601-66	3ZR5	Sediment	3/28/07 09:15	3/29/07 14:18
BH247-525	C071601-67	3ZR6	Sediment	3/28/07 09:55	3/29/07 14:18
BH247-529	C071601-68	32R7	Sediment	3/28/07 11:30	3/29/07 14:18
BH247-6	C071601-69	32R8	Sediment	3/27/07 09:30	3/29/07 14:18
BH247-7	C071601-70	3ZR9	Sediment	3/27/07 10:13	3/29/07 14:18
BH247-8	C071601-71	3ZS0	Sediment	3/27/07 10:45	3/29/07 14:18
INDGOT Room Pit	C071601-72	3ZS2	Sediment	3/27/07 10:45	3/29/07 14:18
Pond A	C071601-73	3ZS3	Sediment	3/27/07 08:59	3/29/07 14:18
Pond B	C071601-74	3Z\$4	Sediment	3/27/07 10:00	3/29/07 14:18
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C071601 FINAL



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Pond C	C071601-75	3ZS5	Sediment	3/27/07 11:15	3/29/07 14:18
Pond D	C071601-76	3ZS6	Sediment	3/27/07 [1:45	3/29/07 14:18
Pond E	C071601-77	3ZS7	Sediment	3/27/07 12:15	3/29/07 14:18
Pond F	C071601-78	3ZS8	Sediment	3/27/07 12:30	3/29/07 14:18
Pond G	C071601-79	3ZS9	Sediment	3/28/07 13:24	3/29/07 14:18
Pond H	C071601-80	3ZT0	Sediment	3/28/07 13:55	3/29/07 14:18
Pond I	C071601-81	3ZT1	Sediment	3/28/07 14:39	3/29/07 14:18
FB01	C071601-82	3ZT3	Sediment	3/27/07 09:00	3/29/07 14:18
FB02	C071601-83	3ZT4	Sediment	3/27/07 09:00	3/29/07 14:18
FB03	C071601-84	3ZT5	Sediment	3/28/07 09:00	3/29/07 14:18
FB04	C071601-85	3ZT6	Sediment	3/28/07 09:00	3/29/07 14:18



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

DATA QUALIFIER DEFINITIONS

U	The analyte was not detected at or above the reporting limit.
B-1	Analyte is found in the associated blank as well as in the sample (CLP B-flag).
CLP01	Concentration reported is less than the lowest standard on calibration curve
CLP03	Baseline instability in calibration or preparation blanks
CLP04	Analyte reported as potential false positive (% RSD > 20%, and result > MDL, but < CRQL)
CLP07	PE sample recovery outside warning limits.
CLP14	The analysis did not indicate the presence of the analyte. The data is rejected and the reported value is the Reporting Limit. Resampling and reanalysis are necessary to confirm or deny the presence of the analyte.
CR	10X dilution
CRa	20X dilution
CRb	2X dilution
CRc	3X dilution
CRd	50X dilution
CRe	5X dilution
J	The identification of the analyte is acceptable; the reported value is an estimate.
Q-2	Result greater than MDL but less than MRL.
Q-5	Serial dilution precision outside method control limits
QM-1	Matrix Spike Recovery less than method control limits
QM-2	Matrix Spike Recovery greater than method control limits
QM-4	Matrix Precision outside method control limits
QM-6	Matrix Spike Recovery less than 10%
R	The presence or absence of the analyte can not be determined from the data due to severe quality control problems. The data are rejected and considered unusable.



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

ACRONYMS AND ABBREVIATIONS

CAS	Chemical Abstracts Service
IAN	Unemical Abstracts Service

Note: Analytes with no known CAS identifiers have been assigned codes beginning with "E", the EPA ID as assigned by the EPA Substance Registry System (www.epa.gov/srs), or beginning with "R4-", a unique identifier assigned by the EPA Region 4 laboratory.

- MDL Method Detection Limit The minimum concentration of a substance (an analyte) that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero.
- MRL Minimum Reporting Limit The analyte concentration which corresponds to the lowest quantitative point on the calibration curve or the lowest demonstrated level of acceptable quantitation.
- TEC Tentatively Identified Compound An analyte identified based on a match with the instrument software's mass spectral library. A calibration standard has not been analyzed to confirm the compound's identification or the estimated concentration reported.



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Total Metals

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZL0 BONNER

Sample ID: PE BLANK

Lab ID: <u>C071601-01</u>

D No:

Matrix: Water

Date Collected: 3/28/07 9:50

		Streng A			
49976 rs	Meaning			(020 (749)	4) jon (Million Cha
429-90-5	Aluminum	200 U	ug/L	200 4/09/07	4/10/07 CLP ILM05.4 P
440-1640 #	Aduntony 2 4 4 8 8 2 10 5 14		9/4	60.75.40.40	
7440-38-2	Arsenic	10 U	ug/L	10 4/09/07	4/10/07 CLP1LM05.4 P
440-39-3 (4)	Birthin and the second			A00 050	Algoria calabytezakista
7440-41-7	Beryllium	5.0 U	ug/L	5.0 4/09/07	4/10/07 CLP ILM05.4 P
(440-43-9	Compunity		",	A S OF MOVE	Linux Virtual Aus (1)
7440-70-2	Calcium	5000 U	ug/L	5000 4/09/07	4/10/07 CLP ILM05.4 P
MEDS:	Cobalt		ie Maria	. 20 10 m annibra	4/10/07 CLP ILMOS 4 P
7440-48-4	Coom	50 U	ug/L	50 4/09/07	4/10/07 CLP ILM05.4 P
7 440-40-8 1-7.1 7439-89-6	Iron	100 U	200	100 4/09/07	4/10/07 CLP ILM05.4 P
/439-89-0 /439-92-1	non		ug/L	100 4,0507	Thomas Cerlinosce
7439-95-4	Magnesium	5000 U	ug/L	5000 4/09/07	4/10/07 CLP ILM05.4 P
1419.96.5	Mangarieso			13/12/09/07	ET CIGOTE CLEIUMBA KAS
74 40- 02-0	Nickel	40 U	ug/L	40 4/09/07	4/10/07 CLP ILM05.4 P
7440-00-t-si	Potassium 7	AF \$25000 U \$ \$3	unter.	SOCOTE Anodii	A poor CIP DAGS 4P.
7782-49-2	Selenium	35 U	ug/L	35 4/09/07	4/10/07 CLP ILM05.4 P
7440722-4	Silver " " " " " " " " " " " " " " " " " " "	10 U		a 10 € 10907	40002 CLPTM054 P
7440-23-5	Sodium	5000 U	ug/L	5000 4/09/07	4/10/07 CLP ILM05.4 P
7440-28-0	Tiallium as 🚉	7. 1. 25 U	ugal) . T	25 4/09/07	4/10/07 : CLP ILM05.4.2.
7440-62-2	Vanadium	50 Li	ug/l	50 4/09/07	4/10/07 CLP II MOS A P
7440-66-6	Zink	39J	w/L	60 4/09/07	4/10/07 - CLP 1LM05.4 R



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Total Metals

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZL1 BONNER

Sample ID: FL-a

Lab ID: C071601-02

D No:

Matrix: Surface Water

Date Collected: 3/28/07 9:50

		Tri-					
7429-90-5	Aluminum		51 U, J, Q-2, B	-1 ug/L	200 4	/09/07 4/10/07	CLP ILM05.4 P
74403844	Animal Series					eries de la com	COSTAGE DE
7440-38-2	Arsenic		6.6 R, Q-2, CLI			/09/07 4/10/07	
74405-0-3	· 菲萨斯克尔 (李) (2)		\$2.42 BALE	A juli s		e900) 2-4/JOO	
7440-41-7	Beryllium	Tilleren (and Olivinia (1977 Authorities) (1977 Aut	5.0 U	ug/L		/09/07 4/10/07	
74400 - 9 8 1	(Cadhium)					nestra de Livro	
7440-70-2	Calcium		110000	ug/L	a company to the company of the	//09/07 4/10/01	
	Coreignum					1000 - 4100 1000 - 1000	
7440-48-4	Cobalt		350	ug/L	50 4	V09/07 4/10/01	7 CLP1LM05.4 P
7440-90-8	Copper		620	Att. The Carry	* -	mand 2. Ulaw	
7439-89-6	Iron		160	ug/L	100	l/09/07 4/10/0°	7 CLP ILM05.4 P
7439.92-1			a 82 ir Leepi		1.50	65000 31100	it (GDD) 18700 f. party
			CLPOSE				
7439-95-4	Magnesium		4000 J, Q-2	ug/L		l/09/07 4/10/0°	
7439-96-5	Managerie		+ 110 F 32.	free in the second	78115	ACROST ELITO	
7440-02-0	Nickel	programme profess ition of this periodic condition to the condition of	19 J, Q-2	ug/L	OPERATE AND A SECOND COMMENTS	1/09/07 4/10/0°	
7440-09:7	Potassium		53000 J. Q.5	, poli		v e9/07 ₹ 4 710/0	的复数的主要的现在分词
7782-49-2	Selenium	rainana anni ann an Airean an	130 Named had beneficially activities for the	ug/L		L/09/07 4/10/0	
7440-22-4	Silven		86.1, 0-2	l light.		1/09/02 . 4/10/0	energy (Co-Machica Carlos III)
7440-23-5	Sodium		500000			L/09/07 4/10/0	a falled in the control of the contr
(440-28-4	Vanadium		- 25 U	ug/L		L/09/87 4/10/0	在國際的自然的學習。 化二十二十二十二十二十二十二十二十二十二十二十二十二十二十二十二十二十二十二十
7440-62-2	THE STATE OF THE S	 	1.9 J, Q-2	ug/L <====================================		1/09/07 4/10/0 1/09/07 € 4/10/0	
7440-66-6	z Zine		44 U, J, Q-2, CLP03	ug/L	. 60	V09/07 4/10/0	Januar K
Service STREET.			- LLU3				<u> 1778年</u> 第四十二十二十二十二十二十二十二十二十二十二十二十二十二十二十二十二十二十二十二



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZL1 BONNER

Sample ID: FL-a

Lab ID: <u>C071601-02</u>

D No:

Matrix: Surface Water
Date Collected: 3/28/07 9:50





Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZL2 BONNER

D No:

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Lab ID: <u>C071601-03</u>

Matrix: Surface Water

Sample ID: FL-b





Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Total Metals

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZL3 BONNER

Sample ID: GL-a

Lab ID: <u>C071601-04</u>

D No:

Matrix: Surface Water
Date Collected: 3/28/07 11:24

	fize to the second			71940 : 14 <u>947</u> 0	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)
7429-90-5	Aluminum	240	ug/L	200 4/09/07	4/10/07 CLP ILM05,4 P
1400360	Antimotry Arsenic				4/10/07 CLP 1LM05.4 P
7440-38- 2 7440-39	Partum 50 50	30	սք/L	10 4/09/07	4/10/07 CLP ILM05.4 P
7440-41-7	Beryllium	5.0 U	ug/L	5.0 4/09/07	4/10/07 CLP ILM05.4 P
7410-43-9	Coorning			Fig. Levent	
7440-70-2	Calcium	40000	u e/L	5000 4/09/07	4/10/07 CLP ILM03.4 P
7440-70-2 7440-70-2	Cironan		ig a k	102 409 (F)	e diame Children
7440-48-4	Cobalt	190	ug/L	50 4/09/07	4/10/07 CLP ILM05.4 P
7440-5038	Copper of the Co		A PER SUPPLY	3, 25, 400,000	Andon Courton ne
7439-89-6 7430-92-1	Iron	13000	ug/L	100 4/09/07	4/10/07 CLP ILM05.4 P
7439-95-4	Magnesium	4600 J, Q-2	ug/L	5000 4/09/07	4/10/07 CLP ILM05.4 P
7439-96-5	Manganese (%)	ica Partino		-15 - 4090	- Char dribled 2
7440-02-0	Nickel	13 J, Q-2	ug/L	40 4/09/07	4/10/07 CLP ILM05.4 P
7440-09-7	Polassium	\$2000 J. Q.S.		5000 - 409 <i>0</i> 78	LIGOT CEPILMOSAP
7782-49-2	Scienium	750 Zarienie de Santonio de San	ug/L	35 4/09/07	4/10/07 CLP ILM05.4 P
7440-22-4 7440-23-5	Silver	10 ts	ug/L ug/L	10 4/09/07/ 100000 4/09/07	4/10/07 CLP ILM05 4 P
7440-28-0	Thallium	25U	iga.	25 4/09/02	4/10/07 CLP EMOS 4 P.
7440-62-2	Vanadium	19 J, Q-2	nB\r nal_r size of the second	50 4/09/07	4/10/07 CLP ILM05.4 P
7440-66-6	Zinc	4.4 U, J, Q-2,	ug/L	60 4/09/07	4/10/07 CLP EM05.4 F
	11.1919年,11.	CLP03	在1945年	大多國軍學系統	TO TAKE THE PARTY OF THE PARTY



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZL3 BONNER

Sample ID: GL-a

Lab ID: <u>C071601-04</u>

D No:

Matrix: Surface Water
Date Collected: 3/28/07 11:24



C071601 FINAL



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZL4 BONNER

Sample ID: GL-b

Lab ID: C071601-05

D No:

Matrix: Surface Water



C071601 FINAL



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Total Metals

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZL5 BONNER

Sample ID: HL-a

Lab ID: <u>C071601-06</u>

D No:

Matrix: Surface Water

Date Collected: 3/28/07 12:30

1						
7429-90-5	Aluminum	76 U, J, Q-2, B-1	u g/L	200 4	09/07 4/10/07	CLP1LM05.4 P
	Angelin and the control of				gyra, Editogr	CLE IL MOVE POR
7440-38 - 2	Arsenic	24	ug/L	10 4	09/07 4/10/07	CLP ILM05.4 P
7440-39-3	Bannik Tarviya	16 t o 2 % 3 t o 2 % 3 t o 2 % 3 t o 2 % 3 t o 2 % 3 t o 2 % 3 t o 2 % 3 t o 2 % 3 t o 2 % 3 t o 2 % 3 t o 2 %	1000 L		9997 4710/07	TEVILMULAR II
7440-41-7	Beryllium	5.0 U	ug/L	5.0 4	09/07 4/10/07	CLP ILM05,4 P
TANGAT: 9.	Comme & 1		ya.	7 50 J	0907=* {L/007	CIPRLWD 18
7440-70-2	Calcium	160000	ug/L	****	09/07 4/10/07	CLP ILM05.4 P
(40047-54)	h Chronium (* 1990) †	20 福州40872127		104.4	6907L 47007	SOUTH AND A PARTY.
7440-48-4	Cobalt	270	u g/L	50 4	09/07 4/10/07	CLP ILM05,4 P
7440-50-87	Copper	24 7 1 1 4 A 2 A 3 A 3 A 3 A 3 A 3 A 3 A 3 A 3 A 3	ug/LVs		6907. Tariator	NET CLASS OF THE
7439-89-6	Iron	46 U, J, Q-2, B-1	u g/L	100 4	09/07 4/10/07	CLP ILM05.4 P
7439 :92-16 /	Lead TO COMPANY OF THE PARTY OF	THE PARTY OF THE P	w/b	;;***) (0*;-4	esorie dioor	CLE HANDS 4 P. 250
	Magnesium	CLT93	ug/L	5000 4	09/07 4/ 10 /07	CLP ILM05.4 P
7439-95-4 7439-96-5	Manganese V		ug/L		09/07 4/10/07 09/07 4/10/07	CLPIEMOSAP
7440-02-0	Nickel	89	u g/L		/09/07 4/10/07	CLP ILM05.4 P
7440-09-7.	Põessium	43000 j Q-5	og/L	5000 24	09/07 4/10/07	CLPILM05AP++
7782-49-2	Selenium	2700	u g/L	35 4	09/07 4/10/07	CLP ILM05.4 P
7440-22-45		A CONTRACTOR OF THE PARTY OF TH	ug/L	10 4	09107 AJTO107	CLFILM05.4 B
7440-23-5	Sodium	1300000	ug/L		/09/07 4/10/07	CLP ILM05.4 P
7440-28-0	Thallium	25.0	ug/L	医李勃特的 开始有效。	/09/07 4/10/07	CLP ILMO3/4 P
7440-62-2	Vanadium Zinc	50 U	ug/L ա ջ/L	and a first of the column	/09/07 4/10/07 /09/07 4/10/07	CLP ILM05.4 P
7440-66-6		NAC AND AND FAMILY OF THE TABLE	OBJU-	DU 4	/09/07 4/10/07	CEP ILMON P



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZL5 BONNER

Sample ID: HL-a

Lab ID: <u>C071601-06</u>

D No:

Matrix: Surface Water



C071601 FINAL



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZL6 BONNER

Sample ID: HL-b

Lab ID: <u>C071601-07</u>

D No:

Matrix: Surface Water
Date Collected: 3/28/07 12:30





Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZW0 BONNER

D No:

Matrix: Surface Water

Date Collected: 3/27/07 10:45

Sample ID: BL-b



Lab ID: <u>C071601-13</u>

C071601 FINAL

5/9/07 8:33

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Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Total Metals

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZW1 BONNER

Sample ID: CL-a

Lab ID: <u>C071601-14</u>

D No:

Matrix: Surface Water
Date Collected: 3/27/07 11:20

			rance of		
7429-90-5	Aluminum	41 U, J, Q-2, B-1	ug/L	200 4/09/07	4/10/07 CLP ILM05.4 P
MERINE	A Allegations and the second s				
7440-38-2	Arsenic	4.0 R, Q-2, CLP04	ug/L]0 4/09/07	4/10/07 CLP ILM05.4 P
7440-41-7	Beryllium	5.0 U	ug/L	200 009 00 5,0 4/09/07	4/10/07 CLP ILM05.4 P
74443.9	Cathon 150 Care 19			i, sur de ce	TOTAL CO. ILVADA 85
7440-70-2	Calcium	13000	ug/L	5000 4/0 9 /07	4/10/07 CLP ILM05.4 P
7440-48-4	Cobalt	10 U 11 J. Q-2	ug/L	50 4/09/07	201869 082 EARIS-28 4/10/07 CLP ILM05.4 P
740-50-8			n publica	. 25 Janohi	(Constanting to the second
7439-89-6	Iron	180	ug/L	100 4/09/07	4/10/07 CLP ILM05.4 P
(\$ 524 × 6				10 - 4000	
7439-95-4	Magnesium Manguese	620 J, Q-2	ug/L	5000 4/09/07	4/10/07 CLP1LM05.4 P
7439-96-51 7440-02-0	Nickel	10 0	ug/L ug/L	5 409/07 40 4/09/07	4/10/07 CLP1LM05.4 P
7440-02-0	Polassium	12000 F C 5 5 F C F	ig/L	5000 - 4/0902	anony clettansae
7782-49-2	Selenium	110	ug/L	35 4/09/07	4/10/07 CLP1LM05.4 P
7440-22-4	Saver	Y: 10-0 / 23/3/2		10 40907	4/10/07 CLP ILMOS A PT
7440-23-5	Sodium	380000	ug/L	50000 4/09/07	4/17/07 CLP ILM05.4 P
7440-28-0	Tialium	74.14 TO THE REAL PROPERTY.			CIA ILANOS A T
7440-62-2	Vanadium	0.57 J, Q-2	u g/L	50 4/09/07	4/10/07 CLP ILM05.4 P
7440-66-6	Zine	5.Lu.loga CLP03	Ug/L	60 4/09/07	4/10/07: CLETIM054.B



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Total Metals

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZW3 BONNER

Sample ID: DL-a

Lab ID: <u>C071601-16</u>

D No:

Matrix: Surface Water
Date Collected: 3/27/07 12:51

							- 10 (10 (10 (10 (10 (10 (10 (10 (10 (10	
				jiř.	£0,915	g(z)	WE OR	zadojevo v isi
7429-90-5	Aluminum		17000	ug/L	200	4/09/07	4/10/07	CLP ILM05.4 P
7,440236-7	Airtineny					APOT :	e i i i i i	GL21340542
7440-38-2	Arsenic	and the second s	10 U	ug/L	- ~	4/09/07	4/10/07	CLP ILM05.4 P
7441-20-7	Barilin , A. P.					409/07	40007.	
7440-41-7	Beryllium		0.38 U, J, Q-2,	ug/L	5.0	4/09/07	4/10/07	CLP ILM05.4 P
1440E4E9	Calimin		CLP03		Sale	4444	5 4/10 07 3	NO PILMOSAPT
		244						
7440-70-2	Calcium	MANAGES CANADA MANAGEMENT CONTRACTOR CONTRAC	38000	ug/L	5000	4/09/07	4/10/07	CLP (LM05.4 P
7440-47-3-7	Crojnia.				110	1/6/17	4/10/97	CLP (EMOTALETE
			F. T. L. CT POP. 3			, por		
7440-48-4	Cobalt Enpper		130	ug/L	50	4/09/07 4/09/07	4/10/07 3-4/10/97	CLP ILM05.4 P
7440-50-8. 7 7439-89-6	Iron		450	we/L	100	4/09/07	4/10/07	CLP ILM05.4 P
7439-89-0 7439-92-	Lead 1					4/09/07		GLP ILMOSAP
			建构的					其位的数据 。
7439-95-4	Magnesium	SECTION CONTRACTOR OF CONTRACTOR OF CONTRACTOR CONTRACT	3000 J, Q-2	ug/L	5000	4/09/07	4/10/07	CLP 1LM05,4 P
7439-96-5	Manganese		4 or 150 330 Mills 100		115	4/09/07	4/10/01	CEPILMOS 4 PA
7440-02-0	Nickel		150	ug/L	40	4/09/07	4/10/07	CLP ILM05.4 P
7440-09-7	Potassium		1100001, 9-5	, ug/L	5000	4/09/07	4/10/07	CLP IIM03.4 P
7782-49-2	Selenium	idos Tilozona volds znik voldo voldo novi telov, sedakuji i	44	ug/L •. •.>>>=	35 2000-2000 (2000)	4/09/07	4/10/07	CLP ILM05.4 P
7-24-2	Sodium		270000			489078	的美国的 內部的	CLP ILM05 4 P
7440-23-5	Socium Thallium		270000 25 U	ug/L ug/L	50000 	4/09/07 4/09/07	4/17/07 4/10/03	CLPILM054P
7440-28-0 7440-62-2	Vanadium	語語學的發展不管學院的學院	1.3 J, Q-2	ug/L	50	4/09/07	4/10/07	CLP ILM05.4 P
7440-62-2	Zinc	************************************	210	ug/L	50 60	4/09/07		CLP ILMOS 4 P

C071601 FINAL



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZW3 BONNER

Sample ID: <u>DL-a</u>

Lab ID: <u>C071601-16</u>

D No:

Matrix: Surface Water



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5/9/07 8:33

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Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZL7 BONNER

Sample ID: BH247-1

Lab ID: <u>C071601-18</u>

D No:

Matrix: Sediment .

Date Collected: 3/27/07 8:59



C071601 FINAL



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Total Metals

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZL8 BONNER

Sample ID: BH247-13

Lab ID: <u>C071601-19</u>

D No:

Matrix: Sediment

Date Collected: 3/27/07 11:34

E1642941	% Solids	39	%	4/05/07	4/05/07 CLP Inorganics
1405.90 1884	Alimount	1952/e-1000 je 1951/5			
7440-36-0	Antimony	16 U, J, QM-1	mg/kg dry	16 4/04/07	4/05/07 CLP ILM05.4 P
7,11752.7			-10/API Y = 5		erina de la constanta.
7440-39-3	Barium	330	mg/kg dry	52 4/04/07	4/05/07 CLP ILM05.4 P
74403113739	Per line Control of the Control		MAR OF ST	171,000	The bar cremans and s
7440-43-9	Cadmium	44 	mg/kg dry	1,3 4/04/07	4/05/07 CLP ILM05.4 P
7 440-70-23 7440-4 7- 3	Chromium	11	mg/kg dry	14008 4/04/072 2.6 4/04/07	4/05/07 CLP ILM05.4 P
7440-47-3 7440-48-4 %	Cooking		mg/sg dry	2.0 4/04/07	Andrew C. P. Land 4
7440-50-8	Copper	3700 J, QM-6,	mg/kg dry	6.4 4/04/07	4/05/07 CLP ILM05.4 P
		CLP07			
743 9189-6 7-1	Hon 18	150ML	ngkgwes	762 444407	# 405/03 CTI U400/4# - #
7439-92-1	Lead	35 J, QM-2, QM-4	mg/kg dry	2.6 4/04/07	4/05/07 CLP ILM05.4 P
7439-95-47 7439-96-5	Magnessinn (1.2) Manganese	1200 J. 062 52 144 140 J. QM-4	m e/kg dry mg/kg dry	1300 404/02 3.9 4/04/07	4/05/07 CLP ILM05.4 P 4/05/07 CLP ILM05.4 P
7440-02-0	New Committee Co	140 3, QVI-4	ing/kg day	3.9 40407	4/05/07 CLP LM05 4 P
7440-09-7	Potassium	170 J, Q-2	mg/kg dry	1300 4/04/07	4/05/07 CLP ILM05.4 P
7782-49-2	Selenium	1000	ong/kg dry	9.0 4/04/07	46507 CLPILMOSAP
7440-23-4	Silver	2.6 U	mg/kg dry	2.6 4/04/07	4/05/07 CLP ILM05.4 P
7440-23-5	Sodium	84 J. O-2	mg/kg dry	1300 7 4/04/02	4/05/07 CEP ILMOS 4 P
7440-28-0	Thallium	1.2 U, J. Q-2.	mg/kg dry	6.4 4/04/07	4/05/07 CLP ILM05.4 P
7440-62-2	Vaneditin	CLP03	mg/kg dry	3 4/04/87	4/05/07 CLP ILMOS 4 P &
7440-66-6	Zinc	1300 J, Q-5	mg/kg dry	16 4/04/07	4/05/07 CLP ILM05.4 P
7440-66-6	Zinc	1300 J, Q-5	mg/kg dry	Ib 4/04/07	4/05/07 CLP1LM05.4 P



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZL8 BONNER

Sample ID: BH247-13

Lab ID: <u>C071601-19</u>

D No:

Matrix: Sediment



C071601 FINAL



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Total Metals

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZL9 BONNER

Sample ID: <u>BH247-17</u>

Lab ID: <u>C071601-20</u>

D No:

Matrix: Sediment

Date Collected: 3/27/07 11:46

7. T					
E1642941	% Solids	62	%	4/05/07	4/05/07 CLP Inorganics
7470500	Alamina (2002)	2400		300 () () () () () () ()	iji gazari (COTVASCE)
7440-36-0	Antimony	9.7 U, J, QM-1	mg/kg dry	9,7 4/04/07	4/05/07 CLP ILM05.4 P
THE SELLE	A SOL	AT AT LUCE		V. 10.465	A CONTRACT CARRENGE VE SE
7440-39-3	Barium	120	mg/kg dry	32 4/04/07	4/05/07 CLP ILM05.4 P
	Berlinus - Salamer and Arthur	1 July 10 10 10 10 10 10 10 10 10 10 10 10 10	ne ke disa) in the second	Control Callydon P
7440-43-9	Cadmium	0.61 J, Q-2	mg/kg dry	0.81 4/04/07	4/05/07 CLP1LM05.4 P
Table 2	Caking	5 6 2 10 10 2 3 4 4	z neko by	E 8 (0 444a)	A LOSSOT CLETIMOSA PLANS
7440-47-3	Chromium	25	mg/kg dry	1.6 4/04/07	4/05/07 CLP ILM05.4 P
7440-282	COME TO SEE SEE	777 777 991 097 20	neke by	18 1 40 and	TOSOTA COLLMONARA
7440-50-8	Copper	320 J, QM-6,	mg/kg dry	4.0 4/04/07	4/05/07 CLP ILM05.4 P
SAME TO STORY OF THE SAME PROPERTY.	properties—1988—1983年1983年1984年1984年1884年1884年1884年1884年1884年1884	CLP07	rom Universitätski marketti sii sais	nerokusa ekitomena alian essekaka (ilin 1804)	ties consecution i consecution de la c
7420-8956	iros	14000	me/ke dry	16. 199 9	
7439-92-1	Lead	15 J, QM-2, QM-4 550 L Q-2	mg/kg dry	1.6 4/04/07 810 4/04/07	4/05/07 CLP ILM05.4 P 4/05/07 CLP ILM05.4 P
7439-95-4 7439-96-5	Magnessiant) Manganese	150 J, QM-4	mg/kg dry mg/kg dry	2.4 4/04/07	4/05/07 CLP ILM05.4 P
7440-02-0	Nickel 5	1610257	ing/kg dry	6.5 40407	ANSANT CLE HANGS AP
7440-09-7	Potassium	53 J, Q-2	mg/kg dry	810 4/04/07	4/05/07 CLP ILM05.4 P
7782-49-2	Selenium	- 14 g T 6 Z , 2 T C	mg/kg dry	5.7: 404/07	LOS/07 CLPILMOS4P
	Taken Calabarate Calabarate	CLPO1			
7440-22-4	Silver	1.6 U	mg/kg dry	1.6 4/04/07	4/05/07 CUP1LM05.4 P
7440-23-5	Sodium	48'f Q2	mg/kg dry	810 4/04/07	4/05/07 CLP ILMOS & P
7440-28-0	Thallium	4.0 U	mg/kg dry	4.0 4/04/07	4/05/07 CLP ILM05.4 P
7440-62-2	Vanadium	28	mg/kg dry	8.1 4/04/07	4/05/07 CLP ILMOS A P
7440-66-6	Zinc	42 J. Q-5	mg/kg dry	9.7 4/04/07	4/05/07 CLP ILM05.4 P



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZL9 BONNER

Sample ID: <u>BH247-17</u>

Lab ID: <u>C071601-20</u>

D No:

Matrix: Sediment

Date Collected: 3/27/07 11:46

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C071601 FINAL



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Total Metals

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZM0 BONNER

Sample ID: <u>BH247-18</u>

Lab ID: <u>C071601-21</u>

D No:

Matrix: Sediment

Date Collected: 3/27/07 11:50

E1642941	% Solids	79	%	4/05/07	4/05/07 CLP Inorganics
749,915	Attribution (Sec. 3)	Sergica Annual Control	or his loads to the		40407 CL2UMO.42 4.8
7440-36-0	Antimony	7.6 U, J, QM-1	mg/kg dry	7.6 4/04/07	4/05/07 CLP ILM05.4 P
1449017		Market & Parket CMCF	建聚原 原	14 July 1940	Candon Street levels in 1975
7440-39-3	Barium	37	mg/kg dry	25 4/04/07	4/05/07 CLP ILM05.4 P
AND E	Beylum 72 2 32 32 32 32 32 32 32 32 32 32 32 32	To a part of the second		CONTRACTOR	LOSOF CLEUDOSA PLAS
	Cadmium	0.63 U	mg/kg dry	0.63 4/04/07	4/05/07 CLP ILM05.4 P
7440-43-9 7446-70-2	Calening	0.03 U	mg/kg ury	0,63 4/04/07	4/05/07 CLP ILM05.4 P
7440-47-3	Chromium	14	mg/kg dry	1.3 4/04/07	4/05/07 CLP ILM05.4 P
7440-47-3 7440-48-4	Cition and		mg/kg dry	1.3 4/04/07	TANSANT ELPILMOSAPEZA
7440-50-8	Copper	11 J, QM-6,	mg/kg dry	3.2 4/04/07	4/05/07 CLP ILM05.4 P
7440-30-6	Coppe	CLP07	mg/kg cay	3.2 40407	40.751
7439-89-6	Tany * 1.	A TOPOGE SERVICE SERVICES	mg/kg dry	Co. 1317 40407	"ARGIOT" GUP IENOSA P. 4.7-1
7439-92-1	Lead	9.7 J, QM-2, QM-4	mg/kg dry	1.3 4/04/07	4/05/07 CLP ILM05.4 P
7439-91-4	Mugaesium s	\$ 6,000 QQs \$90	i ng/kg dry/a.	630 46407	. 40507 CLETTANSAR
7439-96-5	Manganese	120 J, QM-4	mg/kg dry	1.9 4/04/07	4/05/07 CLP ILM05.4 P
7440-02-0	Nickels of Early and The	三 第184.02 年	mg/kg.dry		ADSATE CEPELADS AP
7440-09-7	Potassium	75 J, Q-2	mg/kg dry	630 4/04/07	4/05/07 CLP ILM05.4 P
7782-49-2	Selentum	。上海440亿多亩。	mg/kg dry	44 4/04/01	-4/05/07_ CLPILM0\$4 P
7440-22-4	Silver	1.3 U	mg/kg dry	1,3 4/04/07	4/05/07 CLP ILM05,4 P
7440-23-5	Sodium		mg/kg diy	6307.4040	4/05/07 CLP II MUS A P
7440-28-0	Thallium	1.1 U, J, Q-2,	mg/kg dry	3.2 4/04/07	4/05/07 CLP ILM05.4 P
7440 20 0	Vanadium	CLP03	47 <u>213 86</u> (42 9 45 9	6.3 4/04/07	4/05/07 CLP/LM05/4P
7440-62-2	Zinc	医乳球性 化二氯甲基酚基 医二氯甲基酚 医二氯甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基	mg/kg dry		
7440-6 6- 6		15 J. Q-5	mg/kg dry	7.6 4/04/07	4/05/07 CLP ILM 05.4 P



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZM0 BONNER

D No:

Matrix: Sediment

Date Collected: 3/27/07 11:50

Sample ID: <u>BH247-18</u>



Lab ID: <u>C071601-21</u>

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Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Total Metals

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZM1 BONNER

Sample ID: BH247-19

Lab ID: <u>C071601-22</u>

D No:

Matrix: Sediment

Date Collected: 3/27/07 12:02

		<u>.</u>		1015-124-1015	
E1642941	% Solids	61	%	4/05/07	4/05/07 CLP Inorganics
	(Attributed & Leave #8, S. A. L.	760654		TOTAL LIGHT	Jugodi cercuaren
7440-36-0	Antimony	9.9 U, J, QM-1	mg/kg dry	9.9 4/04/07	4/05/07 CLP 1LM05.4 P
	Assistant	3 LLONE BEING	tin (e.a.)	FOR APPLIE	AND THE PROPERTY.
7440-39-3	Barium	110	mg/kg dry	33 4/04/07	4/05/07 CLP ILM05.4 P
	Beryllian	=0.34 (01) OU 25 (4)	Smile (c	0 82 7 4042	Apple Perpands
7440-43-9	Cadmium	5 ELPOSE S 6-1	mg/kg dry	0.82 4/04/07	4/05/07 CLP ILM05.4 P
l	Calcium		mg/kg dry	9.820 4040V	20500 CLP/END/P
7 440-70- 2-5 7440-47-3	Chromium	24	mg/kg dry	1.6 4/04/07	4/05/07 CLP ILM05.4 P
7440-47-3 7440-48-4	Cobal		me (fear)	2.8.2. Totot a	ango Clpulautanta
7440-50-8	Copper	300 J, QM-6,	mg/kg dry	4.1 4/04/07	4/05/07 CLP ILM05.4 P
/ 44 0-20 -6	Сорры	CLP07	mg/kg cuy	4,1 4/04/07	4/05/07
7439-89-6	Tions To the State of the State	22000	ng iş a y	16 4/0407	ANSAGE LEGENIEN AS A
7439-92-1	Lead	26 J, QM-2, QM-4	mg/kg dry	1.6 4/04/07	4/05/07 CLP ILM05 A P
7439 95 4	Magresium	1200	100/440°	820 40407	LANSON CEPTERADY CT
7439-96-5	Manganese	230 J, QM-4	mg/kg dry	2.5 4/04/07	4/05/07 CLP ILM05.4 P
7440-02-0	Neket	4 01 ,02	mg/kg dry	£ 6.5 4704752	ANSARE CEPTIMOSAP
7440-09-7	Potassium	140 J, Q-2	mg/kg dry	820 4/04/07	4/05/07 CLP ILM05.4 P
7782-49-2	Selenium	57 D	ng/kg diy	£5.7 ** 4194197	4/05/RFT CLP (LIM/94 4 P
7440-22-4	Silver	1.6 U	mg/kg dry	1 6 4/04/07	4/05/07 CLP ILM05.4 P
7440E23-3	Sodium	65 3, 0-2	mg/kg.dry	820 4/04/07	A/05/07 CLP ILMOS A P
7440-28-0	Thallium	2.0 U, J, Q-2,	mg/kg dry	4.1 4/04/07	4/05/07 CLP (LM05.4 P
. SALI CONTRACTION LINES	The same in the second of the second control	CLP03	PARTITION & March & March & Company	. Halfgar (A. J. J. J. J. See	ر الله المنظمة المنظمين المنظمين المنظمة
7440-62-2	Vanadium .	48	mg/kg dry	8.2 4/04/07	4/05/07 CLP ILM05.4 P
7440-66-6	Zinc	76 J. Q-5	mg/kg dry	9.9 4/04/07	4/05/07 CLP ILM05.4 P

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Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZM1 BONNER

Sample ID: <u>BH247-19</u>

Lab ID: <u>C071601-22</u>

D No:

Matrix: Sediment





Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Total Metals

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZM2 BONNER

Sample ID: <u>BH247-20</u>

Lab ID: <u>C071601-23</u>

D No:

Matrix: Sediment

Date Collected: 3/28/07 8:59

APPAYS SY		40.2741.57			
E1642941	% Solids	51	%	4/05/07	4/05/07 CLP inorganics
TO THE SECOND	Summing Page 7				
7440-36-0	Antimony	12 U, J, QM-1	mg/kg dry	12 4/04/07	4/05/07 CLP ILM05.4 P
7446-78-06	Arens to the second	上2016年60月		215 4040	i kopoti stabili uprej 📆
7440-39-3	Barium	350	mg/kg dry	39 4/04/07	4/05/07 CLP ILM05.4 P
TANALT			og og de dry	0.94 746407	
	等的表现的 对于 企业的数据	ing Cleon Con			
7440-43-9	Cadmium	0.16 R, Q-2, CLP04	mg/kg dry	0.98 4/04/07	4/05/07 CLP ILM/05.4 P
740 70 Z	Category of a state of		a mektdiya	CYGE VIGNE	
7440-47-3	Chromium	25	mg/kg dry	2.0 4/04/07	4/05/07 CLP ILM05.4 P
7440-46-4	Goods 18 10 12 12 12 12 12 12 12 12 12 12 12 12 12		mg/kg dry.	9.8 40407	Lingur Clubbananger
7440-50-8	Copper	38 J, QM-6,	mg/kg dry	4.9 4/04/07	4/05/07 CLP ILM05.4 P
7439-8946	III T	CLP07	owks dry	20 Lavor	There carleso apri
7439-92-1	Lead	29 J. OM-2, OM-4	mg/kg dry	2.0 4/04/07	4/05/07 CLP ILM05 4 P
7439-95-4	Magnestrum	1200 32 7 3 7 3	me/kirdry	98057 46462	ONSOTE CEPTUMOSA BY
7439-96-5	Manganese	390 J. OM-4	mg/kg dry	3.0 4/04/07	4/05/07 CLP1LM05.4 P
7440-02-0	Nickel 122	NATION	mg/kg/dry	7.9 4.0407	
7440-09-7	Potassium	300 J. Q-2	mg/kg dry	980 4/04/07	4/05/07 CLP ILMOS.4 P
7782-49-2	Selenium	ota ulicepon	mg/kg/dryc.	6.9 40407	
	126.20	0.2			
7440-22-4		2.0 U	mg/kg dry	2.0 4/04/07	4/05/07 CLP ILM05.4 P
7440-23-5	Sodam	107	mg/kg dry	980 4/04/07	4/05/07 CLP1LM05.4 P
7440-28-0	Thallium	1.1 (J, J, Q-2,	mg/kg dry	4.9 4/04/07	4/05/07 CLP ILM 05.4 P
	·	CLP03			
7440-62-2	Vanadium	55	mg/kg:dry	9.8 4/04/07	4/05/07 CLP1LM05.4 P
7440-66-6	Zinc	39 J _. Q-5	mg/kg dry	12 4/04/07	4/05/07 CLP ILM05.4 P



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZM2 BONNER

D No:

Sample ID: <u>BH247-20</u>

Lab ID: <u>C071601-23</u>

Matrix: Sediment





Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Total Metals

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZM3 BONNER

Sample ID: <u>BH247-21</u>

Lab ID: <u>C071601-24</u>

D No:

Matrix: Sediment

Date Collected: 3/28/07 9:12

74: 77:		(4 1 , 10, 10)	7				7,53,97,7 (5,03) 2,77,7 (5,03)
E1642941	% Solids	78	%		4/05/07	4/05/07	CLP Inorganics
74789055	Authorical Section 1985						
7440-36-0	Antimony	7.7 U, J, QM-1	mg/kg dry	7.7	4/04/07	4/05/07	CLP ILM05.4 P
740,87	(Asale)	24 (100)	angi galagi a	13	7.10	MONTE.	
7440-39-3	Barium	71	mg/kg dry	26	4/04/07	4/05/07	CLP ILM05.4 P
744-1764	ROUP:	OTHER OFFICE	interestration	0.64	Ances:	LOSOF.	Maria No Shi 原。
7440-43-9	Cadmium	0.44 J. O-2	mg/kg dry	0.64	4/04/07	4/05/07	CLP ILM05,4 P
24407628	Catclina Cat	310.1.62587-12.3	mere der 1919		aelor s	4034	zoieuliočni syžeki
7440-47-3	Chromium	20	mg/kg dry	1.3	4/04/07	4/05/07	CLP ILM05.4 P
7440-48-49	Coolly	66 4 40	digike dry	64	do aport	4/05/078	CDF (DAGS 4 BC)
7440-50-8	Copper	57 J, QM-6,	mg/kg dry	3.2	4/04/07	4/05/07	CLP ILM05.4 P
マータものから 出土の子供の生活が変形的		CLP07	网络胡桃树树 医克里内内 化二甲基苯甲基甲基苯甲基甲基	anner eiste		1'-18'k (*224,55EV >₩ 0%5	
7439-89-6		6000	make over				CLP ILM054 P CLP ILM05,4 P
7439-92-1	Lead	12 J, QM-2, QM-4 520 F Q-2	mg/kg dry	1.3	4/04/07 4/04/07	4/05/07 4/05/02	CLP ILMUSA P
743 9 95 4 7439-96-5	Magnesium Manganese	400 J. QM-4	mg/kg dry mg/kg dry	1.9	4/04/07	4/05/07	CLP ILM05.4 P
7440-02-0	Nickel	20102	mg/kg dry	1.7		4/05/07	CLP IL MOS A P
7440-09-7	Potassium	61 J, Q-2	mg/kg dry	640	4/04/07	4/05/07	CLP ILM05.4 P
7782-49-2	Seleaium .	420	mg/kg dry	43	404/07	A/05/07	CEPTLM05AP
7440-22-4	Silver	1.3 U	mg/kg dry	1.3	4/04/07	4/05/07	CLP ILM05.4 P
744023-5		040 13	ingree dry	640	4/04/07	4/05/07	CEPUAND FF
7440-28-0	Thallium	3.2 U	mg/kg dry	3.2	4/04/ 07	4/05/07	CLP ILM05.4 P
7440-62-2	Vanadium	34	mg/kg dry	6.4	4/04/07	4/05/07	CLPILMÖSAP
7440-66-6	Zinc	29 J, Q-5	mg/kg dry	7.7	4/04/07	4/05/07	CLP ILM05.4 P



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZM3 BONNER

D No:

Sample ID: BH247-21

Matrix: Sediment

Date_Collected: 3/28/07 9:12



Lab ID: <u>C071601-24</u>

C071601 FINAL



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Total Metals

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZM4 BONNER

Sample 1D: <u>BH247-22</u>

Lab ID: <u>C071601-25</u>

D No:

Matrix: Sediment

Date Collected: 3/28/07 9:34

E1642941	% Solids	77	%	4/05/0	7 4/05/07 CLP Inorganics
eroya sak	Amount of the second	Market Commence	me/keris/15		
7440-36-0	Antimony	7.8 U, J, QM-1	mg/kg dry	7.8 4/04/	
749(3)=87/4		DEED DIE	me est	y E was	
7440-39-3	Barium	20 J, Q-2	mg/kg dry mg/ks/dr/ v2	26 4/04/0	and the second s
7/812 (5) (5) [4] - 4 (5)		Ulcaberon.			
7440-43-9	Cadmium	0.39 J, Q-2	mg/kg dry	0.65 4/04/0	07 4/05/07 CLP ILM05.4 P
74411712	Cacing 1 4	. 170 F.C. 4 173	melle per el	6500 494	n wenter bellem var
7440-47-3	Chromium	16	mg/kg dry	1,3 4/04/0	07 4/05/07 CLP ILM05.4 P
7440-48-4°4%	Condest.	这些人的特别是对象的特殊的是一种的人。	ingle dy,	7 6 St. 1997	
7440-50-8	Copper	54 J, QM-6,	mg/kg dry	3.2 4/04/0	07 4/05/07 CLP ILM05.4 P
7439-89-6	interes ()	CLP07 8900a	ng/kg dry		ir. Josef Circulos est
7439-92-1	Lead	8.3 J, QM-2, QM-4	mg/kg dry	1.3 4/04/	
7439-95-4	Magnesum	460 F.O. 22	ng/gg div	6507 464	
7439-96-5	Manganese	180 J. QM-4	mg/kg dry	1.9 4/04/	07 4/05/07 CLP ILM05.4 P
7440-02-0	Nikerse (* * * * * * * * * * * * * * * * * * *	*1341.041* T	meyke dry	52 V 404	77 - 4705/07: CLPB-M05/4.PL
7440-09-7	Potassium	41 J, Q-2	mg/kg dry	650 4/04/	
7782-49-2	Selemon :	097 J. J. Q-2,	mg/kg dry	4.5 4040	77 4/05/97 EEP ILM05/4P
7440-22-4	Silver	CLP03			17 4/05/07 CLY ILMUX 4 P
7440-23-5	Sodium	42.1.0-2	mg/kg dry mg/kg dry	650 4/04/	
7440-28-0	Thallium	3.2 U	mg/kg dry	3.2 4/04/	
7440-62-2	Wanadom Caracia Caraci	24	mg/kg dry	6.5 4/04/	The second secon
7440-66-6	ulti posaziski oto okantiki tonjek u u mili ili i i i i i i i i i i i i i i i	್ಲಿ ರೌಡಿಕಿನ್ ಪ್ರತಿ 25 J, Q-5	mg/kg dry	7.8 4/04/	



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZM4 BONNER

Sample ID: <u>BH247-22</u>

Lab ID: <u>C071601-25</u>

D No:

Matrix: Sediment

Date Collected: 3/28/07 9:34



C071601 FINAL



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Total Metals

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZM5 BONNER

Sample ID: <u>BH247-25</u>

Lab ID: <u>C071601-26</u>

D No:

Matrix: Sediment

Date Collected: 3/28/07 9:50

				- 1700 - 11500	
E1642941	% Solids	70	%	4/05/07	4/05/07 CLP Inorganics
			e single the se		
7440-36-0	Antimony	8.5 U, J, QM-1	mg/kg dry	8.5 4/04/07	
140-152				差退性物質	这个时间的时间,这个人就是这个人的时间,
7440-39-3	Barium	990	mg/kg dry	28 4/04/07	
Zima in E	Des Inuites	en ar de Octobra de la companya della companya de la companya de l	oppletty -	7 (21 8 44 0)	
7440-43-9	Cadmium	0.32 J, Q-2	mg/kg dry	0.71 4/04/07	4/05/07 CLP1LM05.4 P
7449270-2	Calcium	4.	male da	2. Sa Demokra	
7440-47-3	Chromium	36	mg∕kg dry	1,4 4/04/07	4/05/07 CLP ILM05.4 P
7440-48-4	Cobale 1	上"精"等20%是有量	Property.	7,14,10407	Aggregi Clulusus (Cl
7440-50-8	Copper	180 J, QM-6,	mg∕kg dry	3.6 4/04/07	4/05/07 CLP ILM05.4 P
		CLP07		or and the control of	
7439 89.6	lion in the second seco	37000	ing/ce dry	14 4/04/07	日本政治、李明·古》为《史》,《中文》,《大学》,《大学》
7439-92-1	Lead Milgnesium	55 J, QM-2, QM-4	mg/kg dry mg/kg dify	1.4 4/04/07	
7439-96-5	Manganese	620 J. OM-4	mg/kg dry	2.1 4/04/07	
7440-02-0	Nickel	68	me/ke dry	57% 404/01	
7440-09-7	Potassium	140 J, Q-2	mg/kg dry	710 4/04/07	4/05/07 CLP ILM05.4 P
7782-49-2	Selenium - Valkaria	29(0)70.2	mg/tg dry		405/078 CLP.ILMOS.4.PE
		CLP03	91.503 x 3 2 2 2		
7440 22-4	Cilver		mg/kg di y	1.4 4/04/07	4/05/07 CLP1LM05.4 P
7440-23-5	Sodium		mg/kg dry	710 4/04/07	個別を自動的を行うが利用やもの語彙を
7440-28-0	Thallium	1.3 U, J, Q-2, CLP03	mg/kg dry	3.6 4/04/07	4/05/07 CLP ILM05.4 P
7440-62-2	Vanadium:	CLP03	mg/kg dry	7.1 4/04/67	A/05/07 CLPILM03.4 P
7440-66-6	Zinc	74 J, Q-5	mg/kg diry	8.5 4/04/07	

C071601 FINAL



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZM5 BONNER

Sample ID: <u>BH247-25</u>

Lab ID: <u>C071601-26</u>

D No:

Matrix: Sediment

Date Collected: 3/28/07 9:50



C071601 FINAL



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Total Metals

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZM6 BONNER

Sample ID: <u>BH247-26</u>

Lab ID: <u>C071601-27</u>

D No:

Matrix: Sediment

Date Collected: 3/28/07 10:10

				- 1. 7/2 i //		TO DO ESPECIENCE EN EN
E1642941	% Solids		72	%	4/05/07	4/05/07 CLP Inorganics
				AND AND DESIGNATION	A Andrew	Account Constitution Street
7440-36-0	Antimony		8.3 U, J, QM-1	mg/kg dry	8.3 4/04/07	4/05/07 CLP ILM05.4 P
Addition of the				Series move division	Territorio	VOSart 26 L2 (E.M. A.R.)
7440-39-3	Barium		64	mg/kg dry	28 4/04/07	4/05/07 CLP ILM05.4 P
			COATT		De le m	
7440-43-9	Cadmium	Maria Aria da Maria Aria Gallada	0.69 U	mg/kg dry	0.69 4/04/07	4/05/07 CLP JLM05.4 P
7440-70-24	Cacata At a Straight		4.7	in 1 into Ke dry Au	5 6 90 s 7 404 f	JOSOF CLANSION CONT.
7440-47-3	Chromium		11	mg/kg dry	1.4 4/04/07	4/05/07 CLP ILM05.4 P
7440548-4\$P	ENAID .		S - 561, CA	· · · · · · · · · · · · · · · · · · ·	N 6947 enume	ANSAUT CLAULANTA A
7440-50-8	Copper		10 J, QM-6,	mg/kg dry	3.5 4/04/07	4/05/07 CLP ILM05.4 P
	M. Com Sec. A 20 Sec.		CLP07	ane Me die		and the source of the source o
743 9-89-6 » 7439-92-1	Lead		12 J, QM-2, QN	《大学》 [1] [1] [1] [1] [1] [1] [1] [1] [1] [1]	1.4 4/04/07	4/05/07 CLP ILM05.4 P
/439-92-1 7439-93-4	Lead		840 3 77 3 7	ingkg dy	1.690 ANDOR	- 405001 CIPHLAD AND
7439-96-5	Manganese		150 J. QM-4	mg/kg dry	2.1 4/04/07	4/05/07 CLP JLM05.4 P
7440-02-03	Nickel			mg/kg day(* 🏄	552 40007	7 4/05/07 CLP ILMOS 4 P
7440-09 - 7	Potassium	のの動物が1.646年の443 - 644年 4.44。266 年 8 83	140 J, Q-2	mg/kg dry	690 4/04/07	4/05/07 CLP ILM05.4 P
778249-2	Selenium		4 8 U.S.	ing/kg.dry	4.8 4/04/07*	405/07: CLP ILM05 4 9
7440-22-4	Silver	eritaning complete from a "The Complete Complete to the Complete C	1.4 U	mg/kg dry	1.4 4/04/07	4/05/07 CLP ILM05.4 P
74411-225:527	Sodium		59 J. O. 2	mg/kg.dry.	3 690 4040T	数是一个是是的一个人,但是他们的对象是是是对于不同的。
7440-28-0	Thallium	Las con la ecolo de desentación	3.5 U	mg/kg dry	3.5 4/04/07	4/05/07 CLP1LM05.4 P
7440-62-2	Vanadium	经验证金额	39,	mg/kg dry	6.9 4/04/07	4/05/67 CLPILM05.4 P
7440-66-6	2inc		17 J, Q-5	mg/kg dry	8.3 4/04/07	4/05/07 CLP !LM05.4 P



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZM6 BONNER

Sample ID: <u>BH247-26</u>

Lab ID: <u>C071601-27</u>

D No:

Matrix: Sediment

Date Collected: 3/28/07 10:10



C071601 FINAL



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Total Metals

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZM7 BONNER

Sample ID: <u>BH247-27</u>

Lab ID: <u>C071601-28</u>

D No:

Matrix: Sediment

Date Collected: 3/28/07 10:26

7.65 (47/2)			· 新加州	VALUE OF			
E1642941	% Solids	59	%		4/05/07	4/05/07	CLP Inorganics
7700 00.5	Animuse	Miles Mary	ethana et esa		4040	100	CHEWAR S
7440-36-0	Antimony	10 U, J, QM-1	mg/kg dry	10	4/04/07	4/05/07	CLP ILM05.4 P
7449338-2	Appelon and the second second		myka die		40407	405-07	Carillos 40
7440-39-3	Barium	2200	mg/kg dry	34	4/04/07	4/05/07	CLP ILM05.4 P
auta i i	Distribution (School Control of C		posta de la		404074	445.97	CEPILONS A
7440-43-9	Cadmium	0.15 J, Q-2	mg/kg dry	0.85	4/04/07	4/05/07	CLP ILM05.4 P
7440-76-1	Calerina	#290 J. Q. 27 8 3 29			A/OMOLES		TCLETLANSA P. S.S.
7440-47-3	Chromium	13	mg/kg dry	1.7	4/04/07	4/05/07	CLP ILM05.4 P
7440-48-42	Condi		or As div		20200		310 10 10 10 10 10 10 10 10 10 10 10 10 1
7440-50-8	Copper	220 J, QM-6,	mg/kg dry	4.3	4/04/07	4/05/07	CLP ILM05.4 P
		CLP07					
7439.89-6		COOCE STREET	mekediy		4/04/07	405/07	CLPHM942
7439-92-1	Lead	110 J, QM-2, QM-4	mg/kg đry	1.7	4/04/07	4/05/07	CLP ILM05.4 P
7439-95-4	Magresium	*340 £ Q 2	ar neste dist	850	404/47/	405/07	CLP ILMOSA IN
7439-96-5	Manganese	270 J, QM-4	mg/kg dry	2.6	4/04/07	4/05/07	CLP ILM05.4 P
7440-02-0	Wickel:		. me/ke dry	\$3000 TE	4/04/07		CEP (LI405/4.P)
7440-09-7	Potassium	210 J, Q-2	mg/kg dry	850	4/04/07	4/05/07	CLP ILM05.4 P
7782-49-2	Seknum	÷31EU∓IQ2 CLP035	mykg dry	# 6.0 #	4/04/07	4/05/07	CEP JEMOS 4 P
7440-22-4	Silver	1.7 U	mg/kg dry	###\\@ 1.7	4/04/07	4/05/07	CLP ILM05.4 P
7440-23-5	Sediem	850 D	mg/kg dry	850	4/04/07	4/05/07	CLEILMOS 4.P
7440-28-0	Thallium	1.2 U. J. O-2.	mg/kg dry	4.3	4/04/07	4/05/07	CLP ILM05.4 P
		CLP03					
7440-62-2	Vanadium	65	mg/kg.dry	8.5	4/04/07	4/05/07	CLP ILM05.4 P
7440-66-6	Zinc	36 J, Q-5	mg/kg dry	10	4/04/07	4/05/07	CLP ILM05.4 P



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZM7 BONNER

Sample ID: <u>BH247-27</u>

Lab ID: <u>C071601-28</u>

D No:

Matrix: Sediment

Date Collected: 3/28/07 10:26



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C071601 FINAL



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Total Metals

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZM8 BONNER

Sample ID: BH247-28

Lab ID: <u>C071601-29</u>

D No:

Matrix: Sediment

Date Collected: 3/28/07 10:58

E1642941	% Solids	69	%	4/05/07	4/05/07 CLP Inorganics
	Austinus	da eronea a	A November 7	r, 2065 majo	
7440-36-0	Antimoný	8.6 U, J, QM-1	mg/kg dry	8.6 4/04/07	4/05/07 CLP ILM05.4 P
7440 3824				30 4040	5.4. 16. 6. 5. 5. 16. 16. 16. 16. 16. 16. 16. 16. 16. 16
7440-39-3	Barium Devillados	150 	mg/kg dry mo/ke ff	29 4/04/07	4/05/07 CLP ILM05.4 P
ALVEST A		A STOREGE			
7440-43-9	Cadmium	0.050 R, Q-2, CLP04	mg/kg dry	0.72 4/04/07	4/05/07 CLP ILM05.4 P
7440 7 6 2 E		**-72101Exx5-7 <u>-1</u> -54-74	AND THE PARTY OF	752720 384 aga ra	44.55. \$10.000 (1992)
7440-47-3	Chromium	80	mg/kg dry	1,4 4/04/07	4/05/07 CLP ILM05.4 P
7440-48-4: 16			mg/kg drys to	40404	C 405007 / CLE TO 467 4 P
7440-50-8	Соррег	28 J, QM-6,	mg/kg dry	3.6 4/04/07	4/05/07 CLP ILM05.4 P
45720228		CLP07			
7439.4	Lead	56000	marks days	1.4 4/04/07	4/05/07 CLP ILM05 P 4/05/07 CLP ILM05.4 P
7439-92-1	Magaeshum	18 J, QM-2, QM-4	mg/kg dry mg/kg dry	1,4 4/04/07	**************************************
7439-96-5	Manganese	1600 J, QM-4	mg/kg dry	2.2 4/04/07	4/05/07 CLP ILM05.4 P
7440-02-0	Nexas	561(2)	mg/kg dry	5 8 4000	ANSOTA CETTAMOS ER
7440-09-7	Potassium	340 J, Q-2	mg/kg dry	720 4/04/07	4/05/07 CLP ILM05.4 P
7782-49-2	Selenum	50 U	mg/kg days	5.0 4/0007	Losari CLE ILMOS A P
7440-22-4	Silver	1.4 U	mg/k g dry	1.4 4/04/07	4/05/07 CLP ILM05.4 P
7A40-23-51	South	38 1. 02	mg/kg dayi	720 : 4/04/07	4/05/07 CLP ILM05/4P
7440-28-0	Thallium	2.1 U. J. Q-2,	mg/kg dry	3.6 4/04/07	4/05/07 CLP ILM05.4 P
maganita ya sangga yakasa tu dal h	ക്കുക്കുക്കും പ്രവേശത്ത് സംവിധാര്യക്ക് അവസ് പ്രവിശ്യാര് സ്വാസ്ത്രീന്റെ അവസ് സ്റ്റ് സ്വാസ്ത്ര	CLP03	1.05 pp. 175pp(6) pp. 6 pp. 6 pp. 1015	in, was not reall one, grapped one is	one muke aking apara sa
7440-62-2	Vanaditen	150	mg/kg dry	7.2 4/64/07	, in the section of the control of the control of the control
7440-66-6	Zinc	33 J. Q-5	mg/kg dry	8.6 4/04/07	4/05/07 CLP ILM05.4 P



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZM8 BONNER

Lab ID: <u>C071601-29</u>

D No:

Sample ID: BH247-28

Matrix: Sediment

Date Collected: 3/28/07 10:58



C071601 FINAL



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Total Metals

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZM9 BONNER

Sample ID: <u>BH247-29</u>

Lab ID: <u>C071601-30</u>

D No:

Matrix: Sediment

Date Collected: 3/28/07 11:24

					Subject from the subject of the
E1642941	% Solids	79	%	4/05/07	4/05/07 CLP Inorganics
7455 00 3 15 7440-36-0	Archament (1985)	7.6 U, J, QM-I	mg/kg dry	7.6 4/04/07	4/05/07 CLP ILM05.4 P
	Absente Barium	A TENER C	males its	3177 6964	405/07 CLP ILM05.4 P
7440-39-3	Beylings Access 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	71 - 103 (3.70)	mg/kg dry mg/kg isv	25 4/04/07 0.6 4/04/07	4/05/07 CLP ILM05.4 P
7440-43 - 9	Cadmium	0.27 J, Q-2	mg/kg dry	0.63 4/04/07	4/05/07 CLP ILM05.4 P
7440-47-3	Caleion Chromium	- 9805 17	mg/kg dry mg/kg dry	630 2 404472 1.3 4/04/07	4/05/07 CLP ILM05.4 P
7440:48-4* 7440-50-8	Cobals Copper	110 J, QM-6,	mg/kg dry mg/kg dry	3.2 4/04/07	4/05/07 CLP ILM05.4 P
SOLUTION CONTRACTOR CONTRACTOR		CLP07		and the second s	
743 9-89.6	Lead	18 J, OM-2, OM-4	mg/kg dry mg/kg dry	1.3 4/04/07	4/05/07 CLP ILMO 4 P
7439.05.4	Magnesium	860	mg/kg dif	630 40401	Ment Crimital
7439-96-5 7440-02-0	Manganese Nickel	330 J. QM-4	mg/kg dry mg/kg dry ⊯ ∈	1.9 4/04/07 50 4/04/07	4/05/07 CLP ILM05.4 P
7440-09-7	Potassium	170 J, Q-2	mg/kg dry	630 4/04/07	4/05/07 CLP ILM05.4 P
7782-49-2	Selentum	38 (J.) (62,734) CLP03	mg/kg/dry/	44 40407	A05/07 CEPTEM054 P.
7440-22-4	Silver	0.99 J, Q-2	mg/kg dry	1.3 4/04/07	4/05/07 CLP ILM05.4 P
7440-23-5 7440-28-0	Sociam Thallium	61 J ()-2 1.1 U, J. Q-2.	mg/kg dry mg/kg dry	630 4/04/07 3.2 4/04/07	4/05/07 CLP (LM05.4 P 4/05/07 CLP (LM05.4 P
7440-62-2	Vanadium	CLP03 55	mg/kg dry	6.3 4/04/07	4/03/07. CLP1LM03.4 P
7440-66-6	Zinc	26 J, Q-5	mg/kg dry	7.6 4/04/07	4/05/07 CLP ILM05.4 P



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZM9 BONNER

Sample ID: <u>BH247-29</u>

Lab ID: <u>C071601-30</u>

D No:

Matrix: Sediment

Date Collected: 3/28/07 11:24



C071601 FINAL



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Total Metals

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZNO BONNER

Sample ID: BH247-3

Lab ID: <u>C071601-31</u>

D No:

Matrix: Sediment

Date Collected: 3/27/07 9:00

	1. (1. (1. (1. (1. (1. (1. (1. (1. (1. (
E1642941	% Solids	68	%	4/05/07	4/05/07 CLP Inorganies
7435095			arners are	and the second	STOCKET CONTINUES OF
7440-36-0	Antimony	8.8 U, J, QM-1	mg/kg dry	8.8 4/04/07	4/05/07 CLP ILM05.4 P
1499. 44	Trent I I I I I I I I I I I I I I I I I I I	The state of the s	Figure District	i el filiación.	
7440-39-3	Barium	910	mg/kg dry	29 4/04/07	4/05/07 CLP ILM05.4 P
1414	Baillian Court of the	字。\$1000000000000000000000000000000000000	nghatr.	**************************************	LAGOTE LINEAR PRES
7440-43-9	Cadmium	0.80	mg/kg đry	0.73 4/04/07	4/05/07 CLP ILM05.4 P
7440.7022414	Calcillate 18 18 18 18 18 18 18 18 18 18 18 18 18	1	· night day 4	o etigne andor	AONOTIE CLEUMOS 4 PARTS
7440-47-3	Chromium	18	mg/kg dry	1.5 4/04/07	4/05/07 CLP ILM05.4 P
7440-45-4	Cotat		TOP/PORTE	* 137 win	COSOF CIPILNOS (B. 7%)
7440-50-8	Copper	370 J, QM-6,	mg/kg dry	3.7 4/04/07	4/05/07 CLP ILM05.4 P
aii aa umamaa waxa William siada w		CLP07	Le andre : Simon, delenière e anno cierde de	Through MARINE AND	dillika programia grada suseko monumur vilika lempangilikika aposikika dagu:
7439.89.8	Iros v	45000 7 7 7 7 7 7 1	one keeping	11.00.4007	
7439-92-1	Lead	41 J, QM-2, QM-4	mg/kg dry	1.5 4/04/07	4/05/07 CLP ILM05.4 P
7439-95-4	Magresium «	370 40/2/31/45	mg/kg dry	780 46402 2.2 4/04/07	4/01/07 CLP ILM05,4 P
7439-96-5 7446-02-0	Nickels:	160 J, QM-4	mg/kg dry mg/kg/dry	2.2 4/04/07	
7440-09-7	Potassium	100	mg/kg dry	730 4/04/07	4/05/07 CLP ILM05.4 P
7782-49-2	Scientium	LSULGAE!	ing/kg dry	51 40407	405/07 CLP ILMOT 4 P
		CLP03			
7440-22-4	Silver	0.57 K, Q-2, CL.P04	mg/kg dry	1.5 4/04/07	4/05/07 CLP1LM05.4 P
7440-23-5	Sodium	730 😘 📆	mg/kg dry	. 730 - 4/04/07	"4/05/07 CLP ILLMOS.4 P-
7440-28-0	Thallium	1.3 U. J. Q-2.	mg/kg dry	3.7 4/04/07	4/05/07 CLP ILM05.4 P
	Varsdium	CLP03	OZ CB opings i zmiss		4/05/07 CCP-LM05/4-P
7440-62-2	Zinc	(2) (4) (2) (2) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4	mg/kg dry mg/kg dry	7,3 4/04/07 8.8 4/04/07	4/05/07 CLP1LM05/4 P
7440-66-6	ZIIIC	57 J, Q-5	tuRick city	8.5 4/04/07	4/03/0/ CEFTEMOS-4F



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZNO BONNER

Lab ID: <u>C071601-31</u>

D No:

Sample ID: BH247-3

Matrix: Sediment

Date Collected: 3/27/07 9:00





Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Total Metals

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZN1 BONNER

Sample ID: BH247-5

Lab ID: <u>C071601-32</u>

D No:

Matrix: Sediment

Date Collected: 3/27/07 9:10

i –							## ## ################################
E1642941	% Solids	69	%		4/05/07	4/05/07	CLP Inorganies
						Mar.	estal villed 7.8%
7440-36-0	Antimony	8.7 U, J, QM-1	mg/kg dry	8.7	4/04/07	4/05/07	CLP ILM05.4 P
PROPERTY.		THE SECTION OF THE SE					
7440-39-3	Barium	470	mg/kg dry	29	4/04/07	4/05/07	CLP ILM05.4 P
		40000	ing kery	4		40207	2 16 3 10 16 17 12 12 12 12 12 12 12 12 12 12 12 12 12
7440-43 - 9	Cadmium	0.87	mg/kg dry	0.72	4/04/07	4/05/07	CLPILM05,4 P
	Countries	0.07	merkedie 4	0.72 2.8720		4/03/07	CEPHANGETH SA
7440-0-4 7440-47-3	Chromium	25	mg/kg dry	1.4	4/04/07	4/05/07	CLP ILM05.4 P
7440-47-3	Mean Comment		T. MACONIA		albante A		C. BENOTAN E.
7440-50-8	Copper	390 J, QM-6,	mg/kg dry	3.6	4/04/07	4/05/07	CLP ILM05.4 P
7440-20-0		CLP07					
7439 85 6	F. Books, Carlot of Carlot States	79000 1 2 4 3 1	Frieglis ares	2013	40000	on the	erenskovan v
7439-92-1	Lead	55 J, QM-2, QM-4	mg/kg dry	1.4	4/04/07	4/05/07	CLP ILM05,4 P
419.98-4	Magnesard / / / / / / / / / / / / / / / / / / /	\$ 2 pt 1 2040 ft G 42 ft 1	P. CONTRACTOR	7720	40407,	405.07)	er pri missis - 1
7439-96-5	Manganese	150 J, QM-4	mg/kg dry	2.2	4/04/07	4/05/07	CLP ILM05.4 P
7440-02-0	Nekol	A DEBUGO	ncy/kg dry		400/ort.	4/05/07	ELPTIMISEP##
7440-09-7	Potassium	62 J, Q-2	mg/kg dry	720	4/04/07	4/05/07	CLP ILM05.4 P
7782-49-2	Sejenium	Land of the second second	mg/kg dry	5,1	40407	4/05/07 4	CLETIMOS 3 PER
7440-22-4	Silver	OLPOS	mg/kg dry	1.4	4/04/07	4/05/07	CLP ILM05.4 P
7440-23-5	Sodium	720 U	mgkg dry	720	4/04/07	4/05/07	CLPILMORAP
7440-28-0	Thallium	0.95 U, J, Q-2,	mg/kg dry	3.6	4/04/07	4/05/07	CLP ILM05.4 P
7-10-20-0		CLP03		5.0			
7440-62-2	Vanadium -	53	mg/kg dry	72	4/04/07	4/05/07	CLP ILMOS # P
7440-66-6	Zinc	57	mg/kg dry	8.7	4/04/07	4/05/07	CLP ILMOS 4 P



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZN5 BONNER

Sample ID: BH247-6

Lab ID: <u>C071601-36</u>

D No:

Matrix: Sediment

Date Collected: 3/27/07 9:30

C071601 FINAL



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Total Metals

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZN6 BONNER

Sample ID: BH247-7

Lab ID: <u>C071601-37</u>

D No:

Matrix: Sediment

Date Collected: 3/27/07 10:13

E1642941	% Solids	73	%	4/05/07	4/05/07 CLP Inorganics
		7 9200 PM (7 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2			
7440-36-0	Antimony	8.2 U, J, QM-1	mg/kg dry	8.2 4/04/07	4/05/07 CLP1LM05.4 P
					ANGERICALING AND A
7440-39-3	Barium	150	mg/kg dry	27 4/04/07	4/05/07 CLP ILM05.4 P
	光则理 。是"是"是"是"			100 2 40 22	Apple Children S.
7440-43-9	Cadmium	0.080 R, Q-2, CLP04	mg/kg dry	0.68 4/04/07	4/05/07 CLP ILM05.4 P
440.00	Eaking)	Dog Land		# 680 ₃₀ 1990	anige stendard 2
7440-47-3	Chromium	11	mg/kg dry	1.4 4/04/07	4/05/07 CLP ILM05.4 P
7400 48-4	Copper	20 1 01/2	mg/kg dry mg/kg dry	3,4 4/04/07	4/05/07 CLP ILM05.4 P
7440-50-8	Соррег	30 J, QM-6, CL-P07	nig/kg cuy	3.4 4/04/07	4/03/0) CLF 1EM03.41
W 19-89-6		575000 PC	next dy	5.114 /AGE/07/	
7439-92-1	Lead	47 J. QM-2, QM-4	mg/kg dry	1.4 4/04/07	4/05/07 CLP ILM05.4 P
7439,95-4	Magnesium	71300 - 1316 Part Part	medie dry	1,680 : AMOT	ANSATT, CHEMINATES
7439-96-5	Manganese	360 J, QM-4	mg/kg dry	2.0 4/04/07	4/05/07 CLP ILM05.4 P
7440-02-03	Niekel	# 32102 # 7	mg/kg dry	75 4040 7	Antion Cerilantapy
7440-09-7	Potassium	170 J. Q-2	mg/kg đry	680 4/04/07	4/05/07 CLP ILM05.4 P
778249-2	Selement	48.0%	mg/kg dry	4.8 40407	AOSAOZ CLPICMOSA P
7440-22-4	Silver	1.4 U	mg/kg dry	1.4 4/04/07	4/05/07 CLP ILM05.4 P
7440-23-5	Sodam	38102	2018年,中國國際共和國國際	680 40402	
7440-28-0	Thallium seemen university on receptions of analytics and the landscape in the first of the control of the con	3.4 U	mg/kg dry	3.4 4/04/07	4/05/07 CLP ILM05.4 P
7440-62-2	Vanadium	134f2	ing/kg dry	6.8 40407	4/05/07 CLP ILM05.4 P
7440-66-6	Zinc	47 J, Q-5	mg/kg dry	8.2 4/04/07	4/05/07 - CLP ILM05.4 P

C071601 FINAL

5/9/07 8:33

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Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZN9 BONNER

Sample ID: INDGOT Room Pit

Lab ID: <u>C071601-40</u>

D No:

Matrix: Sediment

Date Collected: 3/28/07 15:00



C071601 FINAL



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Total Metals

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZP0 BONNER

Sample ID: Pond A

Lab ID: C071601-41

D No:

Matrix: Sediment

Date Collected: 3/27/07 8:59

E1642941	% Solids	51	%	4/10/07	4/10/07 CLP Inorganics
7879 9877					
7440-36-0	Antimony	4.3 U, J, QM-1	mg/kg dry	12 4/11/07	
7400 782					CONTRACTOR CONTRACTOR
7440-39-3	Barium	4400	mg/kg dry	39 4/11/07	A-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1
140-44-7			Simple Health	(a) (v) (a) (d)	
7440-43-9	Cadmium	8.2	mg/kg dry	0.98 4/11/07	7 4/13/07 CLP ILM05.4 P
7440-76-76	Calcium et al.			Section of the sectio	
7440-47-3	Chromium	120	mg/kg dry	2.0 4/11/07	7 4/13/07 CLP ILM05.4 P
7446-48-4			Singate de la	W VALUE OF THE	AND CREWS ME
7440-50-8	Copper	52000 J, CRe, CLP07	mg/kg dry	25 4/11/07	7 4/13/07 CLP ILM05.4 P
7439-89-6-3		78.200km 3.增少	inglid.		TO THE PERSON OF
7439-92-1	Lead	150	mg/kg dry	2.0 4/11/07	7 4/13/07 CLP ILM05.4 P
7#19-98 1 # 3.	Continue Co. Section 1985		e merkie day	1080 Julio	
7439-96-5	Мапдалезе	160	mg/kg dry	2.9 4/11/07	
7440-02-0	L Nettal		i milkadry i	5 77 9 . 39 yw	
7440-09-7	Potassium	380 J, Q-2	mg/kg dry	980 4/11/07	
7782-49-2	Soletium.	1000	me/kip.dry	691 ATM	
7440-22-4	Silver Sodium	260	mg/kg dry	2.0 4/11/07	
7440-23-5	Thallium	4.9 U	State of the late of the pain		
7440-28-0 7440-62-2	Venadium	4.7 U Czasta gazticki po postoliki	mg/kg dry mg/kg drys	4.9 4/11/07 9.8 4/11/07	
7440-66-6	Zinc	300 !, Q-5	mg/kg dry	12 4/11/07	
/440-00-0				12 4/1/0/	7100



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZP3 BONNER

Sample ID: Pond D

Lab ID: <u>C071601-44</u>

D No:

Matrix: Sediment



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C071601 FINAL



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Total Metals

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZP4 BONNER

Sample ID: Pond E

Lab ID: <u>C071601-45</u>

D No:

Matrix: Sediment

Date Collected: 3/27/07 12:15

(c. : , , , , , , , , , , , , , , , , , ,				1.7	
	<u> </u>				
E1642941	% Solids	57	%	4/10/07	4/10/07 CLP Inorganies
Appropriation		independent of the second	Alloway of the second	35 years	
7440-36-0	Antimony	11 U, J, QM-1	mg/kg dry	10 4/11/07	4/13/07 CLP ILM05.4 P
740,0000	在一种	华北州 (402 年)			共产生 市场 中国在1500 建四层体管 计表示 (1500)
7440-39-3	Barium	44	mg/kg dry	35 4/11/07	4/13/07 CLP ILM05.4 P
	Abarikus a resis a financial de la companya de la c	· 040 v. 00 z	e en la anve	1874 1977/07	COLOR CERTIFICATION
7440-43-9	Cadmium	0.30 J, Q-2	mg/kg dry	0.87 4/11/07	4/13/07 CLP ILM05.4 P
7440-43-9 7440-70-4		0.30 1, Q-2	mg/g dry	V.S7 ATTENT	
7440-47-3	Chromium	55	mg/kg dry	1.7 4/11/07	4/13/07 CLP1LM05.4 P
7440-48-4	Cobata		me/ke div	8.77 401.07	
7440-50 - 8	Copper	130 J, CLP07	mg/kg dry	4.4 4/11/07	4/13/07 CLP ILM05,4 P
7439-89-6	Time Territory	56000	north ar	ia viikė	graoir Grandachar
7439-92-1	Lead	19	mg/kg dry	1.7 4/11/07	4/13/07 CLP ILM05.4 P
7439-95-4.2	Megresium : A Company of the Company		ingligates;	870° 4'WoT	dismile Cleitantap
7439-96-5	Manganese	460	mg/kg dry	2.6 4/11/07	4/13/07 CLP ILM05.4 P
7440-02-0	Nicke - A A A A A A A A A A A A A A A A A A		. me/kg/drv	7.0 411/07	VISION CLECIMOS 4P
7 440- 09 -7	Potassium	170 J, Q-2	mg/kg dry	500 4/11/07	4/18/07 CLP ILM05.4 P
1782-49-2	Selemin	1.6 1, 10-2	mg/kg dry	6.1 411707	別の開発しの確認期間があった。1955年以降1950年である。 2010年に
7440-22-4	Silver	1.7 U	mg/kg dry	I.7 4/11/07	4/13/07 CLP1LM05.4 P
7440.23.3		720 15 72 2 2 2 3	THE REPORT OF	870 4/11/01	AVEAUS CUPIEMOSA P
7440-28-0	Thallium	4.4 U anto cassa de cossa de como de casa	mg/kg dry	4,4 4/11/07	4/13/07 CLP 1LM05.4 P
7440-62-2	Vanadium	-160	mg/kg dry	8.7 4/1007	4/13/07 CLP ILM05,4 P
7440-66-6	Zinc	90 J, Q-5	mg/kg dry	10 4/11/07	4/(3/07 CLP 1LM05.4 P



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZP4 BONNER

Lab ID: <u>C071601-45</u>

D No:

Sample ID: Pond E

Matrix: Sediment

Date Collected: 3/27/07 12:15



C071601 FINAL



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Total Metals

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZP5 BONNER

Sample ID: Pond F

Lab ID: <u>C071601-46</u>

D No:

Matrix: Sediment

Date Collected: 3/27/07 12:30

E1642941	% Solids	61	. %	4/10/07	4/10/07 CLP Inorganics
479 (JES.)	WARMAN SAFETY	是到海里岛。但1600年100日的中华。	in in the same		AV DE ME CENTENTALE.
440-36-0	Antimony	9.8 U, J, QM-1	mg/kg dry	9.8 4/11/07	
440-38-2			nivk o ja	期的 花形之形 结结结合	g gran og ett 400 gen.
440-39-3	Barium	2600	mg/kg dry	33 4/11/07	
40741	e Bellium			0 827 - 411/0	English (Reply) (1946)
440-43-9	Cadmium	1.5	mg/kg dry	0.82 4/11/07	4/13/07 CLP ILM05.4 P
ad nez		130000	milke dive	**************************************	
440-47-3	Chromium	35	mg/kg dry	1.6 4/11/07	4/13/07 CLP ILM05,4 P
440-48-4	s comme		e myke dry - c	- 8 2 An ion	L. TOLOGO, CIPLLADO P. W
440-50-8	Соррег	7300 J, CLP07	mg/kg dry	4.1 4/11/07	4/13/07 CLP ILM05.4 P
439.89-6		28006 7	merkar.	. 16-7 4 10	T AT SOT CLEUNOS ARE
439-92-1	Lead	110	mg/kg dry	1.6 4/11/07	4/13/07 CLP ILM05.4 P
439-95-4	Magnesium	230 3, 0-2 2	osocore i	. [820.] 41 1.07	
439-96-5	Manganese	54	mg/kg dry	2.4 4/11/07	
440-02-0-	Nicket .	(数)	merke div	652 41 por	
440-09-7	Potassium	170 J, Q-2	mg/kg dry	500 4/11/07	
782-49-2	Sclemum.	470	marka dre	5.73 Wiles	
/440-22 - 4	Silver	96	mg/kg dry ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	1.6 4/11/07	
440-23-5		<u>1700</u>	mg/kg dry	820/, 4/11/07	The second is a contract to the contract of th
440-28-0	Thailium Vanadium	4.1 U	mg/kg dry	4. 1 4/11/07	
7440-62-2		36	mg/kg dry	8.2 4/11/67	
440-66-6	Zinc	110 J, Q-5	mg/kg dry	9.8 4/11/07	4/13/07 CLP ILM05.4 P



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZP5 BONNER

D No:

Sample ID: Pond F

nd F Lab ID: <u>C071601-46</u>

Matrix: Sediment

Date Collected: 3/27/07 12:30

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C071601 FINAL 5/9/07 8:33

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Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Total Metals

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZP6 BONNER

Sample ID: Pond G

Lab ID: <u>C071601-47</u>

D No:

Matrix: Sediment Date Collected: 3/28/07 13:24

V=0300000				3(80) 3 July 2	72[67]
E1642941	% Solids	62	%	4/10/07	4/10/07 CLP inorganics
	Afferman				4/13/07 CLP ILM05.4 P
7440-36-0 7440-38/2	Antimony	1.7 U, J, QM-1	mg/kg dry Ling/kg dry	9.6 4/11/07	4/13/07 CLP ILM05.4 P
7440-39-3	Barium	5000	mg/kg dry	32 4/11/07	4/13/07 CLP ILM05.4 P
	PRODuit	7979 (1970) j	to Howke day at 2	0.800 41,007	Milyan Christophers
7440-43-9	Cadmium	C1P03 2 b 0.42 J, Q-2	mg/kg dry	0.80 4/11/07	4/13/07 CLP ILM05.4 P
7440.70 22	caremon 1	25.55.29800c.36.7	ing/Eg dija	8002 46002	ACAZ STRILABIAN
7440-47-3	Chromium	19	mg/kg dry	1.6 4/11/07	4/13/07 CLP ILM05.4 P
Wing D	COOM	为是194100000000000000000000000000000000000	in the state of	s Boy salone	ALL CONTROL OF PROPERTY OF THE
7440-50-8 7439-89-6	Copper	3100 J, CLP07	mg/kg dry	4.0 4/11/07	4/13/07 CLP ILM05.4 P
7439-92-1	Lead	150	mg/kg dry	1.6 4/11/07	4/13/07 CLP ILM05.4 P
7430.00	Magorskum: 2	F 1205	ine/kedy	800 41101	OTTO CIPILMOAD
7439-96-5	Manganese	210	mg/kg dry	2.4 4/11/07	4/13/07 CLP ILM05.4 P
7440-02-0 7440-09-7	Mickel Potassium	10 T 380 J. Q-2	mg/kg dry mg/kg dry	6,4 411/07 500 4/11/07	4/13/61 ACLP ILM05/CP 4/18/07 CLP ILM05/4 P
7782-49-2	Selemunt	360 1, Q-2	mg/kg ury	5.6 401007	4/3/07 CLEUMOSAR
7440-22-4	Silver	29	mg/kg dry	1.6 4/11/07	4/13/07 CLP ILM05.4 P
7440-23-5	Sodirun	1500	mg/kg dry	800 41000	APROT CARTIMOS 4 R
7440-28-0	Inalijum Variadijum	4.0 U	mg/kg dry	4.0 4/11/07	4/13/07 CLP ILM05.4 P
7440-62-2 7440-66-6	Zinc	4 8 56 J. Q-5	mg/kg dry mg/kg dry	8.0 4/11/07 9.6 4/11/07	4/13/07 CLP ILM05 4 P 4/13/07 CLP ILM05.4 P
/440-00-0		20.1' 6-2	mg/g u)	9.0 4/1007	W13101 CEN 1131103.71



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZP6 BONNER

D No:

Sample ID: Pond G

Lab ID: <u>C071601-47</u>

Matrix: Sediment

Date Collected: 3/28/07 13:24



C071601 FINAL



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Total Metals

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZP7 BONNER

Sample ID: Pond H

Lab ID: <u>C071601-48</u>

D No:

Matrix: Sediment

Date Collected: 3/28/07 13:55

				777		
j egi 35,705,500						
E1642941	% Solids	56	%	4/10/		
	Administra					
7440-36-0	Antimony	5.0 U, J, QM-1	mg/kg dry	[] 4/11/	07 4/13/07 CLP ILM05.4 P	
7440-39-3	Barium	6500	mg/kg dry	36 4/11/		
7440-39-3	Bevilnen	0500 0776575 (02416 7757575)		0.895		
7440-43-9	Cadmium	2.4	mg/kg dry	0.89 4/11/		
74021074	Casium 7	her informations		1,890e-49		
7440-47-3	Chromium	20	mg/kg dry	1.8 4/11/		
7440-48-47-5 7440-50-8	Copper	10000 J, CLP07	mg/kg dry	4.5 4/11/	""的学 心,因是解析。	
7439-89-6	lice of the second	1000 J, CLEU		2.3		
7439-92-1	Lead	250	mg/kg dry	1.8 4/11/	/07 4/13/07 CLP ILM05.4 P	In
7439-95-4-1	Magnesium .	** **********************************		890 * 201	OC. THERE STRUTHOSPES	
7439-96-5	Manganese	150	mg/kg dry	2.7 4/11/		DOMEST.
7440-02-0%	Nickels	26	ngla by a	7.8 414		
7440-09-7	Potassium	170 J, Q-2	mg/kg dry	500 4/11/	programment, a communication of the second control of the second c	C59.750
7782-49-2	Selentium Silver	3.10i 52	mg/kg day	62 4419 1.8 4/11/		6624 200.0
7440-22-4 7440-23-5	Sodiant.	52 	mg/kg dry	1.8 4/11/ 471 471		wy birnos Tay Calad
7440-28-0	Thallium	4.5 U	mg/kg dry	4.5 4/11/	and the control of th	
7440-62-2	Vacadium	50 - 4	mg/kg dry ∵	8.9 4/11/		
7440-66-6	Zinc	240 J, Q-5	mg/kg dry	11 4/11/	/07 4/13/07 CLP1LM05.4 P	9.6 m K



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZP7 BONNER

Sample ID: Pond H

Lab ID: C071601-48

D No:

Matrix: Sediment

Date Collected: 3/28/07 13:55



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Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Total Metals

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZP8 BONNER

Sample ID: Pond I

Lab ID: C071601-49

D No:

Matrix: Sediment

Date Collected: 3/28/07 14:39

	2.0 - 190 2.5 -		500 (C) (S)		
E1642941	% Solids	65	%	4/10/07	4/10/07 CLP Inorganics
1420-902	Albinoum LE SESSION ET SESSION		Congregaty (er ig zahon.	
7440-36-0	Antimony	9.2 U, J, QM-1	mg/kg dry	9.2 4/11/07	4/13/07 CLP1LM05.4 P
1415389	Arsenio Company Compan	F ALCIANA A PARKET	and the state of t	" 1 SE AUTOR	TANDA CIPILADSA PAR
7440-39-3	Barium	2200	mg/kg dry	3] 4/11/07	4/13/07 CLP ILM05.4 P
7440-41.7	Beylind A Section 1	0.47 L 1 C P032		OTTO ALLER	Service CLUBENDSAT
7440-43-9	Cadmium	37	mg/kg dry	0.77 4/11/07	4/13/07 CLP ILM05 4 P
7440-7051	Calcium Control of the Calcium			THE WANTER	
7440-47-3	Chromium	18	mg/kg dry	1.5 4/11/07	4/13/07 CLP ILM05.4 P
7440.484	Cotal	127	mg/tg.db/	.7.7 2/11/02	A CLP CLARS 4 P
7440-50-8	Copper	2000 J, CLP07	mg/kg dry	3.9 4/11/07	4/13/07 CLP ILM05.4 P
7439-89-6	hog	350001122 E	mg/Lg dry:	FIST HIPP	FALL DOT CERTENDS 4 PC
7439-92-1	Lead	98	mg/kg dry	1.5 4/11/07	4/13/07 CLP1LM05.4 P
7439-944	Magnesium	. 190 0 (1905)	, merkean	::770 - Invot	CELLANA
7439-96-5	Manganese	450	mg/kg dry	2.3 4/11/07	4/13/07 CLP ILM05.4 P
7440-02-0	Nicket Protessium	94	mg/kg dry	6.2 41107	4/18/07 CLP ILMOS 4 P. 4/18/07 CLP ILMOS 4 P
7440-09-7	Selenium	570 8.2	mg/kg dry	500 4/11/07 5 4 4/11/07	regendancembra course were the reconstruction of the course
77 82-49-2 7440-22-4	Silver	1.5 U	mg/kg dity mg/kg dry	1.5 4/11/07	4/13/07 CLP1LM05.4.P
7440-23-3	Sociem	130 U/J, Q-2-B-1	W	770 4/11/02	Annual Carlos Ca
7440-28-0	Thallium	3.9 U	mg/kg dry	3.9 4/11/07	4/13/07 CLP ILMOS 4 P
7440-62-2	Vanadiom	49	mg/kg dry	7.7 4/11/07	4/13/07 CEPILM05.4 P
7440-66-6	Zinc	440 J, Q-5	mg/kg dry	9.2 4/11/07	4/13/07 CLP ILM05.4 P



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZP8 BONNER

Sample ID: Pond I

Lab ID: <u>C071601-49</u>

D No:

Matrix: Sediment

Date Collected: 3/28/07 14:39



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Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Total Metals

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZP9 BONNER

Sample ID: White Pile

Lab ID: <u>C071601-50</u>

D No:

Matrix: Sediment

Date Collected: 3/28/07 10:25

E1642941	% Solids	90	%	4/10.	07 4/10/07	CLP Inorganies
				22.00		CLP ILM05.4 P
7440-36-0 7441-8-2	Antimony	6.6 U, J, QM-1	mg/kg dry	6.6 4/11		CLP ILMOSA P
7440-39-3	Barium	62	mg/kg dry	22 4/11		CLP ILM05.4 P
7440-41-7	Scolling.	1952 Section 1952	Programme and	0.05575-474		
7440-43-9	Cadmium	0.080 J, Q-2	mg/kg dry	0.55 4/11	07 4/13/07	CLP ILM05,4 P
7400070.4	Carlon Page 1	######################################) markety.	7.200° 411	97 41307	Chicage A EAC.
7440-47-3	Chromium	3.4	mg/kg dry	1,1 4/11		CLP ILM05.4 P
7402744	Salari Connect	72.1 (1.00)		5 5 5 4/1 2.8 4/11		CLP 11M05.4 P
7440-50-8 7 419-89-6	Copper Ison	7.2 J, CLP07	mg/kg dry	2.8 4/11		ZEPIEMOVE Z
7439-92-1	Lead	2. 8	mg/kg dry	3.1 4/11	大张罗 丁军上: 一种新	CLP ILM05.4 P
7439-95-4	Magresium	3. 4. 3003.02	mg/kg days	550 7471	ar _s a isar	cresti Misses
7439-96-5	Manganese	9.4	mg/kg dry	1.7 4/11		CLP ILM05.4 P
7440502-0	Naket S.	7.3.2747.04	merke day:	25 49 401		CLPHNOTEP
7440-09-7	Potassium Selemum	63 J, Q-2	mg/kg dry	500 4/II		CLP ILM05.4 P CLP ILM05.4 P2
7782-49-2 7440-22-4	Silver	1.1 U	mg/kg dry mg/kg dry	1.1 4/11		CLP ILM05.4 P
7440-23-5	Socion	39.0(.) O.2 B-1	me/kg dey	2550. 4/II		CLPILMOS (P.
7440-28-0	Thallium	2.8-U	- mg/kg thy	2.8 4/11	/ 07 4/13/07	CLPTLM05.4 P
7440-62-2	Vanadium	64	mg/kg dry	. 5:5° 401	07 4/13/07	CLPILMOSAP :
7440-66-6	Zinc	3.6 U, J. Q-5	mg/kg dry	6.6 4/11	/07 4/13/07	CLP1LM05.4 P



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZP9 BONNER

Sample ID: White Pile

Lab ID: C071601-50

D No:

Matrix: Sediment





Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZQ0 BONNER

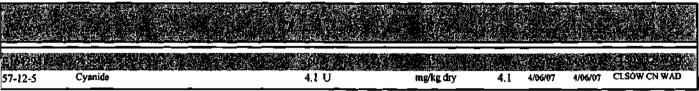
Sample ID: BH247-1

Lab ID: <u>C071601-51</u>

D No:

Matrix: Sediment

Date Collected: 3/27/07 8:59





Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZQ1 BONNER

Lab ID: <u>C071601-52</u>

D No:

Matrix: Sediment

Sample ID: <u>BH247-13</u>

Date Collected: 3/27/07 11:34

is163/24 Solid Sol	5.1 U	mg/kg dry	5.1 4/06/0	7 4/06/07 CLSOW CN WAD

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Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZQ2 BONNER

Sample ID: BH247-17

Lab ID: <u>C071601-53</u>

D No:

Matrix: Sediment

Date Collected: 3/27/07 11:46

57-12-5 Cyanide	0.18 J, Q-2	mg/kg dry	4.0 4/06/07	4/06/07 CLSOW CN WAD

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5/9/07 8:33

183



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZQ3 BONNER

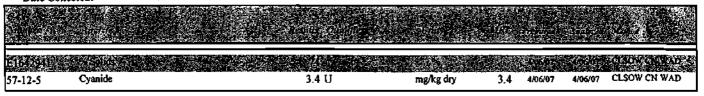
Sample ID: BH247-18

Lab ID: <u>C071601-54</u>

D No:

Matrix: Sediment

Date Collected: 3/27/07 11:50



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Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZQ4 BONNER

Sample ID: BH247-19

Lab ID: <u>C071601-55</u>

D No:

Matrix: Sediment

Date Collected: 3/27/07 12:02

57-12-5 Cyanide	4.8 U	mg/kg dry	4.8 4/06/07	4/06/07 CLSOW CN WAD

C071601 FINAL 5/9/07 8:33

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Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZQ5 BONNER

Sample ID: <u>BH247-20</u>

Lab ID: <u>C071601-56</u>

D No:

Matrix: Sediment

Date Collected: 3/28/07 8:59

		9. ************************************		
[8/64/29]] S-Solits 57-12-5 Cyanide	7-1 (č. 3.9 U	mg/kg dry	3.9 4/06/07	4/06/07 CLSOW CN WAID

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Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZQ6 BONNER

Sample ID: <u>BH247-21</u>

Lab ID: <u>C071601-57</u>

D No:

Matrix: Sediment

Date Collected: 3/28/07 9:12

			440			
57-12-5 Cyanide	3.2 U	mg/kg dry	3.2	4/06/07	4/06/07	IDEAN ON VAID OF



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZQ9 BONNER

D No:

Sample ID: <u>BH247-26</u>

Lab ID: <u>C071601-60</u>

Matrix: Sediment

Date Collected: 3/28/07 10:10

FI(<0007) - CSORE 57-12-5 Cyanide	3.7 U	mg/kg dry	3.7	4/06/07	4/06/07	CLSOW CN WAD

C071601 FINAL



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZR0 BONNER

Sample ID: <u>BH247-27</u>

Lab ID: <u>C071601-61</u>

D No:

Matrix: Sediment

Date Collected: 3/28/07 10:26

57-12-5 Cyanide	3.8 U	mg/kg dry 3.8	3004.7. S 3 4/06/07 4/06/07 CLSOW CN WAI	D D



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZR3 BONNER

Sample ID: <u>BH247-3</u> Lab ID: <u>C071601-64</u>

D No:

Matrix: Sediment

Date Collected: 3/27/07 9:00

			マン・ (*) (*)	
57-12-5 Cyanide	3.6 U	mg/kg dry	3.6 4/06/07	4/06/07 CLSOW CN WAD

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Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZR4 BONNER

Sample ID: BH247-5

Lab ID: <u>C071601-65</u>

D No:

Matrix: Sediment

Date Collected: 3/27/07 9:10

57-12-5 Cyanide	4.2 U	mg/kg dry	4.2 4/06/07	7 4/06/07 CLSOW CN WAD



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZR5 BONNER

D No:

Sample ID: <u>BH247-521</u>

Matrix: Sediment

Date Collected: 3/28/07 9:15

57-12-5 Cyanide	3.7 U	mg/kg dry	3.7	4/06/07 4/06/07	4/06/07	CLSOW CN WAD

Lab ID: <u>C071601-66</u>

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Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZR6 BONNER

Sample ID: <u>BH247-525</u>

Lab ID: <u>C071601-67</u>

D No:

Matrix: Sediment

Date Collected: 3/28/07 9:55

57-12-5 Cyanide	2.2 J,	Q-2 mg/kg dry	3.5 4/06	4/06/07 CL	SOW CN WAD



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZS4 BONNER

Sample ID: Pond B

Lab ID: <u>C071601-74</u>

D No:

Matrix: Sediment

Date Collected: 3/27/07 10:00

					+ 12	
escepted.	4/24501527					Kark street to see
57-12-5	Cyanide	1.1 U, J, Q-2,	mg/kg dry	8.4 4/09	/ 0 7 4/09/07	CLSOW CN WAD
		QM-I, CLP03				

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Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZS5 BONNER

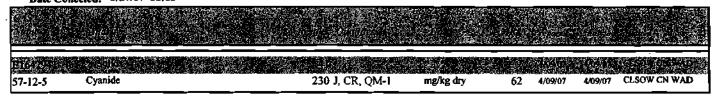
Sample ID: Pond C

Lab ID: <u>C071601-75</u>

D No:

Matrix: Sediment

Date Collected: 3/27/07 11:15





Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZS6 BONNER

Lab ID: <u>C071601-76</u>

D No:

Sample ID: Pond D

Matrix: Sediment

Date Collected: 3/27/07 11:45

57-12-5 Cyanide	6.6 J, QM-1	mg/kg dry	5.3 4/09/07	4/09/07 CLSOW CN WAD

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C071601 FINAL



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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZS7 BONNER

Sample ID: Pond E

Lab ID: <u>C071601-77</u>

D No:

Matrix: Sediment

Date Collected: 3/27/07 12:15

		T and the same of		
57-12-5 Cyanide	4.3 U, J, QM-1	mg/kg dry 4.	3 4/09/07 4/	09/07 CLSOW CN WAD

C071601 FINAL



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZT4 BONNER

Sample ID: FB02

Lab ID: C071601-83

D No:

Matrix: Sediment

Date Collected: 3/27/07 9:00

度的环境。 1987年(1987年) - 1987年(1987年) - 1987年(1987年) - 1987年(1987年) - 1987年(1987年) - 1987年(1987年) - 1987年) - 1987年)		
57-12-5 Cyanide 2.5 U, J, OM-1 mg/kg dry 2.5 4/09/07 4/09/07 CLSOW CN WAD		

C071601 FINAL 5/9/07 8:33



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Total Metals

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZT5 BONNER

Sample ID: FB03

Lab ID: <u>C071601-84</u>

D No:

Matrix: Sediment Date Collected: 3/28/07 9:00

165						
E1642941	% Solids	100	%	4/	10/07 4/10/07	CLP Inorganics
7429,004	Aftermotion 12 2		ingly in			
7440-36-0	Antimony	6.0 U, J,	QM-1 mg/kg dry	6.0 4/	11/07 4/13/07	CLP ILM05.4 P
7440-1825, Y	Arsedio 🔭 🖟 🖦 🔭	SPACE AS TOTAL		7.7 .7118 .4	illing stations	CLEIDAGGANG
7440-39-3	Barium	0.93 J, Q-	2 mg/kg day	20 4/	11/07 4/13/07	CLP ILM05.4 P
7440-4147	Bayman Artis			1 - 0.506.31	(id , 1)3/7	e centros abilidas
7440-43-9	Cadmium	0.50 U	mg/kg dry		11/07 4/13/0 7	CLP ILM05.4 P
MAEDIN	Cacing	T 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	e ng/gay			
7440-47-3	Chromium	0.72 Մ, յ, CLP0	-	1.0 4/	11/07 4/13/07	CLP ILM05.4 P
7440-48-4	Cobale	CLIN		- 3 f 4	nois and	CLPTIMO: 4 PK:
7440-50-8	Copper	0.20 J, Q-	在EMPERATOR TO THE TRANSPORT OF THE PROPERTY O	THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER.	11/07 4/13/07	CLP ILM05.4 P
7439.89-6	from the state of	790	ing/kg dry		i <i>Marie Ve</i> rone	CIPEMBAPT
7439-92-1	Lead	1.0 U	mg/kg dry	1.0 4/	11/07 4/13/07	CLP ILM05.4 P
7439-95-4	Magnessum.	12.10	? ≠ 1	50 0 6734	11/07/2 4/13/07	CLPHMS4P
7439-96-5	Manganese	1.2 J, Q-	2 mg/kg dry	1.5 4/	11/07 4/13/07	CLP ILM05.4 P
7440-02-0	Nicket .	40 0210 Q	2 mg/kg dry	4.0° W	11/07 4/13/07	CLPILMOSA B
7440-09-7	Potassium	12 J, Q-	2 mg/kg dry	500 4/	11/07 4/18/07	CLP1LM05.4 P
7782-49-2-	Selenium	10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ng/kg dry	350 4	1,1707 4/13/07	CLPILMOS 4 P
7440-22-4	Silver	1. 0 U	mg/kg dry	1.0 4/	11/07 4/13/07	CLP ILM05.4 P
7440-23-5	Sodium - Sodium	410	()=2, B+1 // mg/kg dry	500 4/	11/07 : 4/13/07	ČLPILM03.4 P
7440-28-0	Thallium	2.5 U	mg/kg dry	2.5 4/	11/07 4/13/07	CLP JLM05.4 P
7440-62-2	Vanadium	0.71 L Q	ing/kg dry	5.0	11/07 4/13/07	CLPILM054P = ,?
7440-66-6	Zinc	0.63 U, J,	Q-2, Q-5, mg/kg dry	6.0 4/	11/07 4/13/07	CLP ILM05.4 P
		CLPO	03			



Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZT5 BONNER

Lab ID: <u>C071601-84</u>

D No:

Sample ID: FB03

Matrix: Sediment

Date Collected: 3/28/07 9:00



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Region 4 Science and Ecosystem Support Division 980 College Station Road, Athens, Georgia 30605-2700

Classical/Nutrient Analyses

07-0377, Barite Hill/Nevada Goldfields

Contract Lab Case: 36293

MD No: 3ZT6 BONNER

Sample ID: FB04

Lab ID: C071601-85

D No:

Matrix: Sediment

Date Collected: 3/28/07 9:00

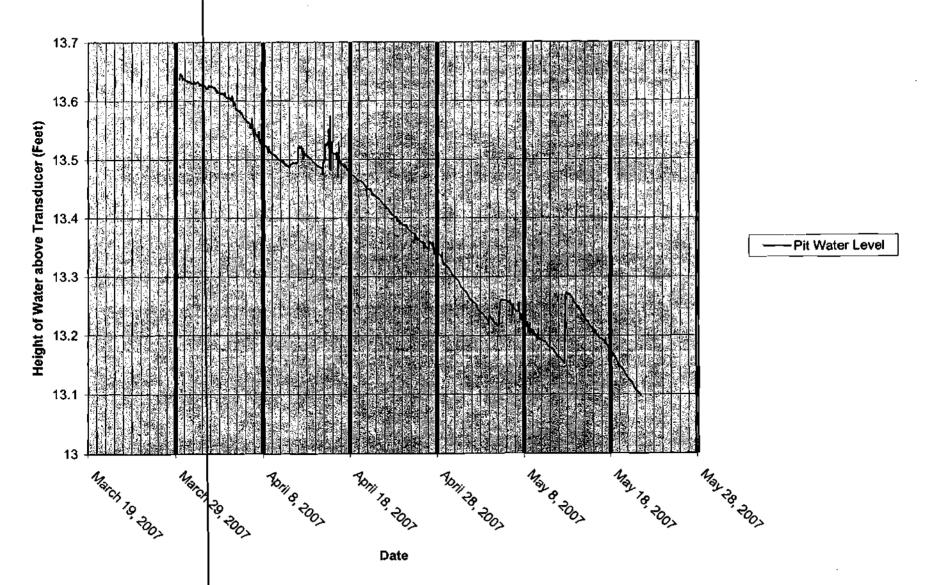
E164/2048 / G	2.5 U, J, QM-1	mg/kg dry 2.5	4/09/07 4/09/07 CLSOW CN WAD

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APPENDIX C
MAIN PIT WATER LEVEL DATA
BARITE HILL GOLD MINE
TRIP REPORT
JUNE 2007

0247-DTR-062207

Water Level Data



In-Situ Inc.

MiniTroll Pro

Report generated:

5/23/2007

12:40:16

Report from file:

...\SN02234 2007-03-29 100000 Barite Hill Data.bin

Win-Situ® Version

4.57.0.0

Serial number:

2234

Firmware Version

3.09

Unit name:

(#2234)MW13

Test name:

Barite Hill Data

Test defined on:

3/29/2007

6:25:19

Test scheduled for:

3/29/2007

10:00:00

Test started on:

3/29/2007

10:00:00

Test stopped on:

N/A

N/A

Data gathered using Linear testing Time between data poi Seconds.

Number of data sample

1275

TOTAL DATA SAMPLES

1275

Channel number [1]

Measurement type:

Temperature

Channel name:

OnBoard Temp

Channel number [2]

Measurement type:

Pressure

Channel name:

OnBoard Pressure

Sensor Range:

30 PSIG.

Sensor Offset:

0.000 psi

Density:

1.000 g/cm3 45 degrees

Latitude: Elevation:

0.000 meters (0.000 feet)

Date		Time	ET (sec)		Chan[2] Pressure Feet H2O	Chan[1] Temperature Fahrenheit	
	3/29/2007	10:00:00	0	3/29/2007 10:00	13.636	55.47	
	3/29/2007	11:00:00	3600	3/29/2007 11:00	13.643	55.5	
	3/29/2007	12:00:00	7200	3/29/2007 12:00	13.647	55.54	
-	3/29/2007	13:00:00	10800	3/29/2007 13:00	13.647	55.5	
	3/29/2007	14:00:00	14400	3/29/2007 14:00	13.642	55.5	
	3/29/2007	15:00:00	18000	3/29/2007 15:00	13.642	55.5	
	3/29/2007	16:00:00	21600	3/29/2007 16:00	13.643	55.52	
	3/29/2007	17:00:00	25200	3/29/2007 17:00	13.643	55.5	
	3/29/2007	18:00:00	28800	3/29/2007 18:00	13.636	55.52	
	3/29/2007	19:00:00	32400	3/29/2007 19:00	13.639	55.52	

3/29/2007	20:00:00	36000	3/29/2007 20:00	13.637	55.52
3/29/2007	21:00:00	39600	3/29/2007 21:00	13.637	55.54
3/29/2007	22:00:00	43200	3/29/2007 22:00	13.637	55.52
3/29/2007	23:00:00	46800	3/29/2007 23:00	13.637	55.52
3/30/2007	0:00:00	50400	3/30/2007 0:00	13.636	55.52
3/30/2007	1:00:00	54000	3/30/2007 1:00	13.636	55.52
3/30/2007	2:00:00	57600	3/30/2007 2:00	13.636	55.52
3/30/2007	3:00:00	61200	3/30/2007 3:00	13.636	55.52
3/30/2007	4:00:00	64800	3/30/2007 4:00	13.634	55.52
3/30/2007	5:00:00	68400	3/30/2007 5:00	13.635	55.54
3/30/2007	6:00:00	72000	3/30/2007 6:00	13.634	55.52
3/30/2007	7:00:00	75600	3/30/2007 7:00	13.633	55.54
3/30/2007	8:00:00	79200	3/30/2007 8:00	13.633	55. 5 4
3/30/2007	9:00:00	82800	3/30/2007 9:00	13.634	55.52
3/30/2007	10:00:00	86400	3/30/2007 10:00	13.634	55.52
3/30/2007	11:00:00	90000	3/30/2007 11:00	13.633	55.54
3/30/2007	12:00:00	93600	3/30/2007 12:00	13.632	55.52
3/30/2007	13:00:00	97200	3/30/2007 13:00	13.633	55.56
3/30/2007	14:00:00	100800	3/30/2007 14:00	13.632	55.54
3/30/2007	15:00:00	104400	3/30/2007 15:00	13.632	55.54
3/30/2007	16:00:00	108000	3/30/2007 16:00	13.631	55.56
3/30/2007	17:00:00	111600	3/30/2007 17:00	13.631	55.59
3/30/2007	18:00:00	115200	3/30/2007 18:00	13.632	55.54
3/30/2007	19:00:00	118800	3/30/2007 19:00	13.63	55.54
3/30/2007	20:00:00	122400	3/30/2007 20:00	13.629	55.56
3/30/2007	21:00:00	126000	3/30/2007 21:00	13.629	55.56
3/30/2007	22:00:00	129600	3/30/2007 22:00	13.63	55.54
3/30/2007	23:00:00	133200	3/30/2007 23:00	13.63	55.54
3/31/2007	0:00:00	136800	3/31/2007 0:00	13.63	55.54
3/31/2007	1:00:00	140400	3/31/2007 1:00	13.629	55.56
3/31/2007	2:00:00	144000	3/31/2007 2:00	13.631	55.56
3/31/2007	3:00:00	147600	3/31/2007 3:00	13.63	55.54
3/31/2007	4:00:00	151200	3/31/2007 4:00	13.63	55.54
3/31/2007	5:00:00	154800	3/31/2007 5:00	13.63	55.54
3/31/2007	6:00:00	158400	3/31/2007 6:00	13.63	55.54
3/31/2007	7:00:00	162000	3/31/2007 7:00	13.629	55.56
3/31/2007	8:00:00	165600	3/31/2007 8:00	13.63	55.54
3/31/2007	9:00:00	169200	3/31/2007 9:00	13.632	55.54
3/31/2007	10:00:00	172800	3/31/2007 10:00	13.632	55.54
3/31/2007	11:00:00	176400	3/31/2007 11:00	13.633	55.5 6
3/31/2007	12:00:00	180000	3/31/2007 12:00	13.632	55.54
3/31/2007	13:00:00	183600	3/31/2007 13:00	13.631	55 56
3/31/2007	14:00:00	187200	3/31/2007 14:00	13.631	55.56
3/31/2007	15:00:00	190800	3/31/2007 15:00	13.631	55.59
3/31/2007	16:00:00	194400	3/31/2007 16:00	13.626	55.56
3/31/2007	17:00:00	198000	3/31/2007 17:00	13.629	55.56
3/31/2007	18:00:00	201600	3/31/2007 18:00	13.629	55.56
3/31/2007	19:00:00	205200	3/31/2007 19:00	13.629	55.56
3/31/2007	20:00:00	208800	3/31/2007 20:00	13.627	55.59
3/31/2007	21:00:00	212400	3/31/2007 21:00	13.627	55.56
3/31/2007	22:00:00	216000	3/31/2007 22:00	13.627	55.56
3/31/2007	23:00:00	219600	3/31/2007 23:00	13.627	55.56

4/1/2007	0:00:00	223200	4/1/2007 0:00	13.624	55.56
4/1/2007	1:00:00	226800	4/1/2007 1:00	13.627	55.56
4/1/2007	2:00:00	230400	4/1/2007 2:00	13.626	55.54
4/1/2007	3:00:00	234000	4/1/2007 3:00	13.624	55.56
4/1/2007	4:00:00	237600	4/1/2007 4:00	13.626	55.54
4/1/2007	5:00:00	241200	4/1/2007 5:00	13.625	55.59
4/1/2007	6:00:00	244800	4/1/2007 6:00	13.626	55.56
4/1/2007	7:00:00	248400	4/1/2007 7:00	13.624	55.56
4/1/2007	8:00:00	252000	4/1/2007 8:00	13.624	55.56
4/1/2007	9:00:00	255600	4/1/2007 9:00	13.624	55.56
4/1/2007	10:00:00	259200	4/1/2007 10:00	13.62	55.59
4/1/2007	11:00:00	262800	4/1/2007 11:00	13.622	55.56
4/1/2007	12:00:00	266400	4/1/2007 12:00	13.62	55.56
4/1/2007	13:00:00	270000	4/1/2007 13:00	13.62	55.56
4/1/2007	14:00:00	273600	4/1/2007 14:00	13.622	55.56
4/1/2007	15:00:00	277200	4/1/2007 15:00	13.62	55.56
4/1/2007	16:00:00	280800	4/1/2007 16:00	13.624	55.56
4/1/2007	17:00:00	284400	4/1/2007 17:00	13.624	55.56
4/1/2007	18:00:00	288000	4/1/2007 18:00	13.624	55.56
4/1/2007	19:00:00	291600	4/1/2007 19:00	13.626	55.56
4/1/2007	20:00:00	295200	4/1/2007 20:00	13.623	55.59
4/1/2007	21:00:00	298800	4/1/2007 21:00	13.624	55.56
4/1/2007	22:00:00	302400	4/1/2007 22:00	13.624	55.56
4/1/2007	23:00:00	306000	4/1/2007 23:00	13.624	55.56
4/2/2007	0:00:00	309600	4/2/2007 0:00	13.624	55.56
4/2/2007	1:00:00	313200	4/2/2007 1:00	13.624	55.56
4/2/2007	2:00:00	316800	4/2/2007 2:00	13.624	55.56
4/2/2007	3:00:00	320400	4/2/2007 3:00	13.624	55.56
4/2/2007	4:00:00	324000	4/2/2007 4:00	13.624	55.56
4/2/2007	5:00:00	327600	4/2/2007 5:00	13,624	55.56
4/2/2007	6:00:00	331200	4/2/2007 6:00	13.622	55.56
4/2/2007	7:00:00	334800	4/2/2007 7:00	13.622	55.56
4/2/2007	8:00:00	338400	4/2/2007 8:00	13.622	55.56
4/2/2007	9:00:00	342000	4/2/2007 9:00	13.622	55.56
4/2/2007	10:00:00	345600	4/2/2007 10:00	13.623	55.59
4/2/2007	11:00:00	349200	4/2/2007 11:00	13.622	55.56
4/2/2007	12:00:00	352800	4/2/2007 12:00	13.622	55.56
4/2/2007	13:00:00	356400	4/2/2007 13:00	13.617	55.63
4/2/2007	14:00:00	360000	4/2/2007 14:00	13.618	55.59
4/2/2007	15:00:00	363600	4/2/2007 15:00	13.616	55.59
4/2/2007	16:00:00	367200	4/2/2007 16:00	13.614	55.56
4/2/2007	17:00:00	3708 <u>00</u>	4/2/2007 <u>17:00</u>	13.618	55.56
4/2/2007	18:00:00	374400	4/2/2007 18:00	13.617	55.61
4/2/2007	19:00:00	378000	4/2/2007 19:00	13.616	55.59
4/2/2007	20:00:00	381600	4/2/2007 20:00	13.615	55.61
4/2/2007	21:00:00	385200	4/2/2007 21:00	13.614	55.59
4/2/2007	22:00:00	388800	4/2/2007 22:00	13.614	55.59
4/2/2007	23:00:00	392400	4/2/2007 23:00	13.614	55.56
4/3/2007	0:00:00	396000	4/3/2007 0:00	13.614	55.54
4/3/2007	1:00:00	399600	4/3/2007 1:00	13.614	55.56
4/3/2007	2:00:00	403200	4/3/2007 2:00	13.612	55.56
4/3/2007	3:00:00	406800	4/3/2007 3:00	13.614	55.56

4/3/2007	4:00:00	410400	4/3/2007 4:00	13.612	55.56
4/3/2007	5:00:00	414000	4/3/2007 5:00	13.612	55.56
4/3/2007	6:00:00	417600	4/3/2007 6:00	13.612	55.59
4/3/2007	7:00:00	421200	4/3/2007 7:00	13.614	55.56
4/3/2007	8:00:00	424800	4/3/2007 8:00	13.612	55.56
4/3/2007	9:00:00	428400	4/3/2007 9:00	13.612	55.56
4/3/2007	10:00:00	432000	4/3/2007 10:00	13.612	55.56
4/3/2007	11:00:00	435600	4/3/2007 11:00	13.612	55.59
4/3/2007	12:00:00	439200	4/3/2007 12:00	13.61	55.56
4/3/2007	13:00:00	442800	4/3/2007 13:00	13,61	55.56
4/3/2007	14:00:00	446400	4/3/2007 14:00	13.614	55.61
4/3/2007	15:00:00	450000	4/3/2007 15:00	13.608	55.56
4/3/2007	16:00:00	453600	4/3/2007 16:00	13.608	55.56
4/3/2007	17:00:00	457200	4/3/2007 17:00	13.608	55.59
4/3/2007	18:00:00	460800	4/3/2007 18:00	13.606	55.61
4/3/2007	19:00:00	464400	4/3/2007 19:00	13.607	55.56
4/3/2007	20:00:00	468000	4/3/2007 20:00	13.606	55.63
4/3/2007	21:00:00	471600	4/3/2007 21:00	13.606	55.59
4/3/2007	22:00:00	475200	4/3/2007 22:00	13.606	55.59
4/3/2007	23:00:00	478800	4/3/2007 23:00	13.604	55.59
4/4/2007	0:00:00	482400	4/4/2007 0:00	13.604	55.59
4/4/2007	1:00:00	486000	4/4/2007 1:00	13.604	55.59
4/4/2007	2:00:00	489600	4/4/2007 2:00	13.604	55.61
4/4/2007	3:00:00	493200	4/4/2007 3:00	13.604	55.59
4/4/2007	4:00:00	496800	4/4/2007 4:00	13.60 6	55.59
4/4/2007	5:00:00	500400	4/4/2007 5:00	13.604	55.59
4/4/2007	6:00:00	504000	4/4/2007 6:00	13.602	55.59
4/4/2007	7:00:00	507600	4/4/2007 7:00	13.602	55.63
4/4/2007	8:00:00	511200	4/4/2007 8:00	13.602	55.61
4/4/2007	9:00:00	514800	4/4/2007 9:00	13.602	55.59
4/4/2007	10:00:00	518400	4/4/2007 10:00	13.609	55.65
4/4/2007	11:00:00	522000	4/4/2007 11:00	13.6	55.61
4/4/2007	12:00:00	525600	4/4/2007 12:00	13.606	55.61
4/4/2007	13:00:00	529200	4/4/2007 13:00	13.597	55.59
4/4/2007	14:00:00	532800	4/4/2007 14:00	13.591	55.59
4/4/2007	15:00:00	536400	4/4/2007 15:00	13.599	55.59
4/4/2007 4/4/2007	16:00:00	540000	4/4/2007 16:00	13.598	55.65
4/4/2007	17:00:00 18:00:00	543600 547200	4/4/2007 17:00	13.596	55.61
4/4/2007	19:00:00		4/4/2007 18:00	13.596	55.61
4/4/2007	20:00:00	550800	4/4/2007 19:00	13.596	55.61
4/4/2007	21:00:00	554400 558000_	4/4/2007 20:00 4/4/2007 21:00 _	13.587	55.63
4/4/2007	22:00:00	561600	4/4/2007 22:00	<u>13.584</u> 13,587	<u>55.59</u> _
4/4/2007	23:00:00	565200	4/4/2007 23:00	13.585	55,61 55,59
4/5/2007	0:00:00	568800	4/5/2007 0:00		
4/5/2007	1:00:00	572400	4/5/2007 0:00	13.585 13.585	55.65 55.61
4/5/2007	2:00:00	576000	4/5/2007 1:00	13.585	55.63
4/5/2007	3:00:00	579600	4/5/2007 2:00	13.583	55.63 55.61
4/5/2007	4:00:00	583200	4/5/2007 4:00	13.583	55.59
4/5/2007	5:00:00	586800	4/5/2007 5:00	13.582	55.68
4/5/2007	6:00:00	590400	4/5/2007 6:00	13.582	55.61
4/5/2007	7:00:00	594000	4/5/2007 7:00	13.581	55.61
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4/10/2007	7.00.00	17 17 200	4/10/2007 1:00	13.473	55.92

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5/10/2007	9:00:00	3625200	5/10/2007 9:00	13.189	56.31
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5/10/2007	11:00:00	3632400	5/10/2007 11:00	13.189	56.31
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5/16/2007	2:00:00	411840 <u>0</u>	5/16/2007 2:00	13.207	56.38
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5/21/2007	9:00:00	4575600	5/21/2007 9:00	13.101	56.38
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5/21/2007	11:00:00	4582800	5/21/2007 11:00	13.097	56.38
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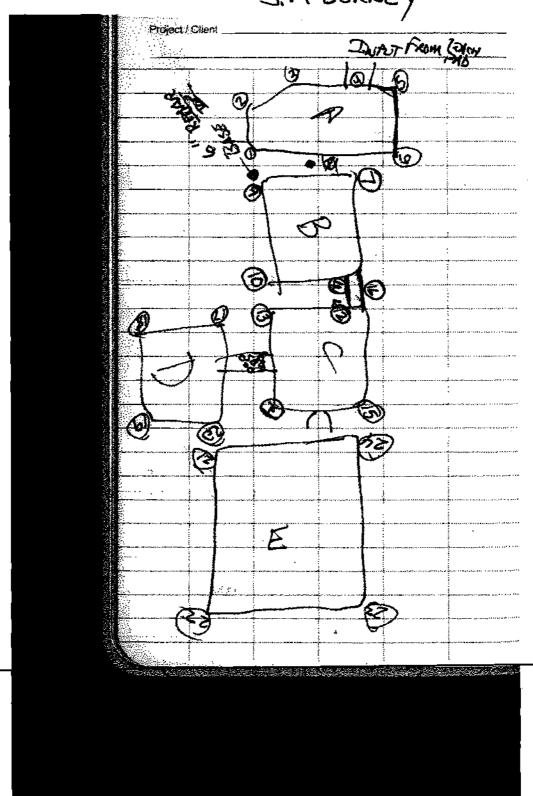
APPENDIX D
RAW SURVEY DATA
BARITE HILL GOLD MINE
TRIP REPORT
JUNE 2007

Raw Survey Data Main Pit to Impacted Stream

	RE	EADING		(+)	Hi	(-)	(elev.)
Base Elevation	Feet	Inches	Decimal Feet	• •		` ,	100
Loc 1 → Pond Edge	·	15 5.812	5 15.484	15.484	115.484		
Loc 1 → TP1	.	13 9.12	5 13.760		115,484	13.760	101.724
Loc 2 → TP1	·	11.	5 0.958	0.958	102.682		103.6406
Loc 2 → TP2		13	4 13.333		102,682	13.333	
Loc 3 → TP2		1 6.	5 1.542	1.542	90.891		92.43229
Loc 3 → Stream Edge	· i · ·	14 3.37	5 14.281		90.891	14.281	76.60938
Loc 3 → BH247-9	· ·	15 6.37	5 15.531		90.891	15.531	75.35938
Loc 3 → Stream Edge	· · · ·	14 3.37	5 14.281	•	90.891	14,281	76.60938
Loc 3 → TP3		1 7.87	5 1.656		90.891	1.656	·
Loc 4 → TP3	· · ·	13 6.37	5 13.531	13,531	102.766		116.2969
Loc 4 → TP4	1	1 0.2	5 1. 021		102.766	1.021	101.7448
Loc 5 → TP4	1	14	9 14.750	14.750	116.495		131.2448
Loc 5 → TP5	1	l5 5 .2	5 15.438		116.495	15,438	
Loc 6 → TP5	1 1	14 7.87	5 14.656	14.656	115.714		130.3698
Loc 6 → Pond Edge	1	15 8.2	5 15.688		115.714	15.688	100.026

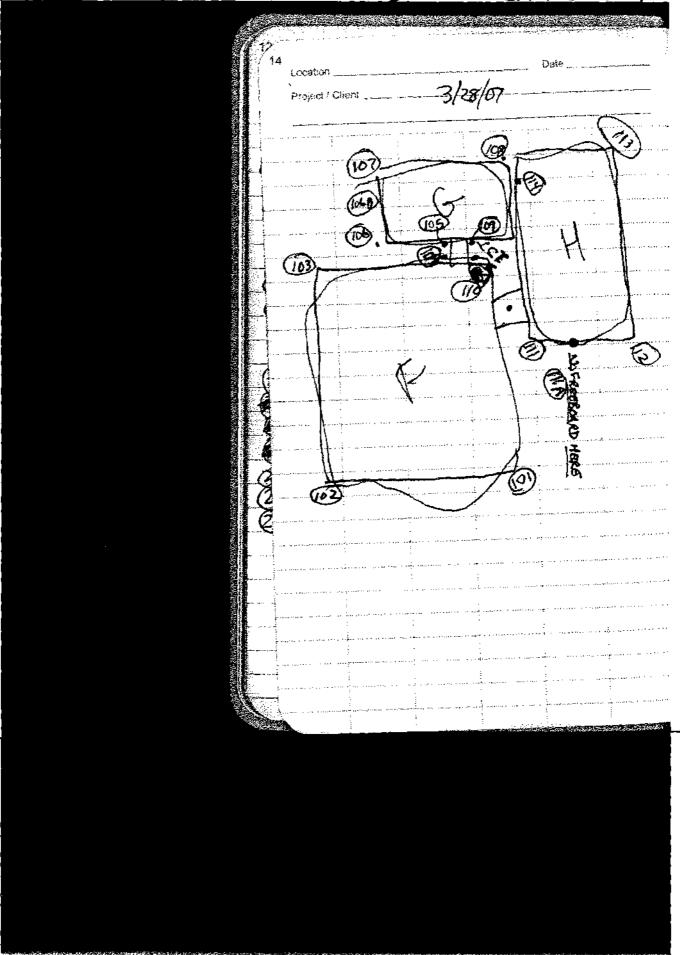
FIELD NOTES:

J. MCBURNEY



			Measu	trement	Calculated			Adjusted to Ft abov€	-	+	- Calc	+ Calc			Check	
	Location A	Angle			Feet	Instrument Elevation	Point Elevation	Water Line	Feet Inches	Feet Inches	Feet	Feet	-	+	Difference	OK/NOT OK
	Base (Top of Rebar)						100.00	1.24								
	Station 1	0	4 :	5.75	4.479	104.479		(98.76)			0	0	1			
	1	12	4	0.375	4.865	104.479	99.61	0.85	4 5.625	5 3.375	4,47	5.28	0.40	0.42		OK
	2	66	4 !	.625	4.802	104.479	99.68	0.92	4 0.75	5 6.5	4.06	5.54	0.74	0.74	0.00	OK
	3	97	4	ļ.	4.250	104.479	100.23	1.47	3 2.25	5 3.5	3.19	5.29	1,06	1.04		OK
Pond A	4	140	5	\$	5.250	104.479	99.23	0.47	4 3.75	6 2.5	4,31	6.21	0.94	0.96		OK
	Water A		5 :	6.625	5.719	104.479	98.76	0.00	4 10.625	6 6.875	4.89	6.57	0.83	0.85	0.02	OK .
	5	162	4 (.25	4.521	104.479	99.96	1.20	3 6.375	5 5 .8 7 5	3.53	5.49	0.99	0.97	-0.02	OK
	6	185	4 .	4	4.333	104.479	100.15	1.39	3 5.75	5 2.5	3.48	5.21	0.85	88.0	0.02	OK
	7	198	4 (6.75	4.563	104.479	99.92	1.16	4 2.625	4 10.75	4.22	4.90	0.34	0.33	-0.01	OK
	8		6	.25	6.604	104,479	97. 8 8	(0.89)								
	Ciose	0	4 :	\$.75	4.479	104.479	100.00	1.24								
Pond B	g	356	4	1.5	4.625	104.479	99.85	1.09	4 2.75	5 0.25	4.23	5.02	0.40	0.40	0.00	OK
	10	304	4 :	4.75	4.229	104.479	100.25	1.49	3 4.25	5 1.5	3.35	5.13	0.88	0.90	0.02	OK
	11	261	4 :	8.875	4.740	104.479	99.74	0.98	3 11.25	5 6.5	3.94	5.54	0.80	0.80	0.00	ок
	Water B		5	8 .5	5.708	104.479	98.77	0.01			0.00	0.00	5.71	-5.71	-11.42	
	12	265	4	7.375	4.615	104.479	99.86	1.10	39	5 5.75	3.75	5.48	0.86	0.86	0.00	OK
	13	301	4	4.25	4.438	104.479	100.04	1.28		5 4.5	0.00	5.38	4.44	0.94	-3.50	
	Sand Bags	296	5	5.75	5.479	104.479	99.00	0.24	4 3.25	6 8.25	4.27	6.69	1.21	1.21	0.00	OK
Pond C	14	290	4 9	91.5	4,792	104.479	99.69	0.93		5 5 .5	0.00	5.46	4.79	0.67	-4.13	
Forta C	Spillway C to E	285	5 :	d .5	5.792	104.479	98.69	(0.07)	4 3	7 4.5	4,25	7.38	1.54	1.58	0.04	OK .
	15	265	4	14.5	4.125	104.479	100.35	1.59	2 6.5	5 8.75	2.54	5.73	1.58	1.60	0.02	OK
	16	256	4 :	5 625	4.469	104.479	100.01	1.25	3 6.875	5 4.5	3.57	5.38	0.90	0.91	0.01	OK
	Close		4	5,75	4.479	104.479	100.00	1.24								
	Station 2 to Base	0	5 :	2	5.167	105.167			4 5.75	5 10.25	4.48	5.85	0.69	0.69	0.00	OK .
	17	135	5	3	5.250	105,167	99.92	1,16	5 0.75	55	5.06	5.42	0.19	0.17	-0.02	OK
Pond D	18	228	4	8	4.667	105.167	100.50	1.74	4 2	5 2	4.17	5.17	0.50	0.50	0.00	OK
FUIU D	19	204	5 (어	5.000	105.167	100.17	1.41	4 3.75	5 8.25	4.31	5.69	0.69	0.69	0.00	OK
	20	155	4	B 25	4.688	105.167	100.48	1.72	4 1.375	53	4.11	5.25	0.57	0.56	-0.01	OK
	Sand Bag Wall Turn		6	0 75	6.063	105.167	99.10	0.34								
	Station 3 to Turn	0	6	4 125	6.344	105.448										
	21	282	4	1	4,917	105.448	100.53	1.77	4 2.75	5 7.25	4.23	5.60	0.69	0.69	0.00	OK
	Water Level E		17	7 75	17.646	105.448	87.80	(10.96)								
Pond E	22	218	5 9	5	5.417	105.448	100.03	1.27	3 8.5	7 1.5	3.71	7.13	1.71	1,71	0.00	OK
	23	183	5 -	45	5.375	105.448	100.07	1.31	3 9.5	70	3.79	7.00	1.58	1.63	0.04	OK
	24	108	5 3	2	5.167	105.448	100.28	1.52	4 10.25	56	4.85	5.50	0.31	0.33	0.02	OK
	Close		5 !	5	5.417	105.448	100.03	1.27	3 10	70	3.83	7.00	1.58	1.58	0.00	OK

FIELD NOTES: J MCBURNEY



Heap Leach Pile Process Ponds

	Location Water Level is Base Station 1	Angle	Feet	surement Inches 3.625	t Calculated Feet 5.302	Instrument Elevation	Point Elevation 100	Elevation Relative to Water Level 0.00	Feet Inches	+ Feet Inches		+ Calc Feet		+	Check Difference	e OK/NOT OK
ĺ	101	0		5.5	5.302 4.458	105.3020833	400.04									
]	102	49		9.75		105.3020833	100.84	0.84	3 0.25	5 10.5	3.02	5.88	1.44	1.42	-0.02	OK
	402				4.813	105.3020833	100.49	0.49	2 7.5	70	2.63	7.00	2.19	2.19	0.00	OK
Pond F	103	90		1.75	4.146	105.3020833	101.16	1.16	2 5.75	5 10	2.48	5.83	1.67	1.69	0.02	OK
1	104	96		5.75	4.479	105,3020833	100.82	0.82	4 3.875	4 7.75	4.32	4.65	0.16	0.17	0.01	ОК
1	110	102	•	6.5	4.542	105.3020833	100.76	0.76	4 5.625	4 7.25	4.47	4.60	0.07	0.06	-0.01	OK .
1	Water Level F			3.625	5.302	105.3020833	100.00	0.00	5 1.625	5 5.625	5.14	5.47	0.17	0.17	0.00	OK
l	105	127	-	2.25	5.188	105.3020833	100.11	0.11	4 11.5	5 5	4.96	5.42	0.23	0.23	0.00	OK OK
	106	97	-	1	5.083	105.3020833	100.22	0.22	na na	6 4	1.00	0.72	0.25	0.23	0.00	OK .
1	107	121		0	4.000	105.3020833	101,30	1.30	2 7.25	5 5.25	2.60	5.44	1.40	1.44	0.04	ОK
Pond G		107	4	11	4.917	105.3020833	100.39	0.39	3 7.5	6 2.75	3.63	6.23	1.29	1.31	0.02	
í	Water Level G		5	4.25	5.354	105.3020833	99.95	-0.05	4 4.5	6 4	4.38	6.33				OK .
1	108	176	4	4.625	4.385	105.3020833	100.92	0.92	3 8.5	51			0.98	0.98	0.00	OK
ĺ	109	154	5	3	5.250	105.3020833	100.05	0.05			3,71	5.08	0.68	0.70	0.02	OK
j	Pond H to Pond F		7	8.75	7.729	105.3020833	97.57	-2.43	5 0.625	5 5.25	5.05	5.44	0.20	0.19	-0.01	OK
	111	320	4	4	4,333	105.3020833	100.97		7 7.5	7 10	7.63	7.83	0.10	0.10	0.00	OK
1	111A	304	5	3.875	5.323	105.3020833	99.98	0.97	4 1.5	4 6.25	4.13	4.52	0.21	0.19	-0.02	OK
Pond H	Water Level H			3.875	5.323	105.3020833		-0.02	4 10.625	5 9.125	4.89	5.76	0.44	0.44	0.00	OK
1	112	287		7.25	4.604		99.98	-0.02								
1	113	221	3			105.3020833	100.70	0,70	3 11	5 3.5	3.92	5.29	0.69	0.69	0.00	OK
1	114	192	-		3.917	105.3020833	101.39	1,39	2 11.25	4 11	2.94	4.92	0.98	1.00	0.02	OK
1	Water Level G	192		11.375	3.948	105.3020833	101.35	1,35	3 4.25	4 6.5	3.35	4.54	0.59	0.59	0.00	OK .
1	Water Level G		5	B.75	5.313	105.3020833	99,99	-0.01					2	J	****	

APPENDIX E
CALCULATION OF EVAPORATIVE RATE
BARITE HILL GOLD MINE
TRIP REPORT
JUNE 2007

0247-DTR-062207

CALCULATION OF EVAPORATIVE RATE

A request was made to estimate the evaporation from the Main Pit Lake at the Barite Hill Gold Mine Site in McCormick, SC for the period 3/25/2007 through 5/22/2007. The general technique to accomplish the requested task was taken from *Water in Environmental Planning (1978)*, by Thomas Dunne and Luna B. Leopold. The steps taken to achieve the final evaporation estimation are as follows:

- 1. Quality controlled daily weather observations for Greenwood County Airport, SC (GRD) were obtained from an online subscription through the National Climatic Data Center (NCDC). The airport is located at 34.289N and -82.159W.
- Daily average cloud cover data was obtained for Greenville-Spartanburg, SC Airport (GSP) from the Greenville-Spartanburg National Weather Service Forecast Office online climate information page. GSP is located at 34.896N and -82.219W. Daily numerical cloud cover data is not available for GRD.
- Sunrise/sunset data was generated through an online program provided by the United States
 Naval Observatory. Total hours of possible sunshine were multiplied by the average daily cloud
 cover to provide an estimated daily amount of sunshine.
- 4. Calculate mean monthly solar radiation by,

$$Q_s = I_o(0.803 - 0.340C - 0.458C^2)$$
, where,

 I_0 = solar radiation per day received on a horizontal surface at the exterior of the atmosphere (from Dunne & Leopold, Table 4-2) C = mean monthly cloudiness (decimal fraction)

Calculate net radiation by,

$$H = Q_s/l$$
, where,

l = latent heat of vaporization of water, 590 cal/g

6. Calculate mass transfer contribution to total evaporation by.

$$E_a = (0.013 + 0.00016u_2)*(e_{sa} - e_a)$$
, where,

 u_2 = wind speed in km/day

 e_{sa} = saturation vapor pressure of a water surface at the air temperature found by,

$$e_{sa} = 6.11 \times 10^{(7.5 T_a)/(237.7 T_a)}$$
, where

 T_a = ambient air temperature

 e_a = atmospheric vapor pressure found by,

$$e_a = 6.11 \times 10^{(7.5*T_d)/(237.7*T_d)}$$
, where

 T_d = dew point temperature

7. Monthly lake evaporation (cm) by,

$$E_0 = ((\Delta/\gamma)^*H) + E_0 / ((\Delta/\gamma) + 1) * #days in month, where,$$

 $\Delta / \gamma = \text{Penman's dimensionless parameter (from Dunne & Leopold, Table 4-6)}$

Dota		l/10s loud	-uneir-	en inde-i	poss	.		fraci	esi. hrs	avg W,	w,	avg	avg	avg	avg	variation of A	Penman's parameter	saturation vapor	vapor pressure,	• - •	insiasi translati
<u>J/25/2007</u>		Over		_	SUN 12:14	hrs	<u>min</u>	prs	sun	mph		T _v F	T _s , C	T _a ,F	T _a , C	mb/°C		pressure, mb	mb_	inches	contribution,
3/26/2007		6	6:27 6:26	18:41 18:42	12:14		14	12.2	12.3	4.2	163	70	21.1	53 _	11.7	1.565	2.37	15.0	13.7	0	9.44
3/27/2007		ĭ	6:24	18:43	12:19	12	16 19	12.3 12.3	4.9 11.1	6.0 4.8	232 185	66 68	18.9	53	11.7	1.41	3.14	21.8	13.7	0	9.40
3/28/2007		i	6:23	18:44	12:31	12	21	12.4	11.1	4.9	189	69	20.6	57 54	13. 9 12.2	1.41 1.465	114	23.3	15.9	0	●.32
3/29/2007		6	6:22	18:44	12:22	12	22	12.4	4.9	8.4	324	57	13.9				2.25	14.2	14.2	0	0.43
3/30/2007		7	6:21	18:45	13:24	12	24	12.4	3.7	3.0	116	19	15.0	51 44	10.6	1.26	1.91	15.9	12.7	T	0.20
3/31/2007		4	6:19	18:45	12:26		26	12.4	7.5	7.3	181	65	18.3	54	6.7 12.2	1.115 1.26	1.49 1.91	17.0	9.8	0	0.23
4/1/2007		5	6:18	18:46	12:28	12	28	12.5	6.2	5.1	313	68	20.0	59	15.0	3.485	1.91	21,0 13.3	14.2 17.0	0	8.40
4/2/2007		4	6:17	18:47	12:30	12	30	12.5	7.5	7.1	274	70	11.1	60	15.6	1.565	2.37	15.e	17.6	0.1	9.40
4/3/2007		•	6:15	18:48	12:33	12	33	12.6	7.5	6.4	247	71	21.7	60	15.6	1.64	148	25.9	17.6	0.01	0.42
4/4/2007		1	6:14	18:48	12:34	12	34	12.6	113	11.5	444	64	17.8	49	9.4	1.64	1.40	20.3	11.3	9.06	0.43 0.71
4/5/2007		٠	6:13	18:49	12:36	12	36	12.6	12.6	4.7	181	50	10.0	29	-1.7	0.905	1.37	12-3	5.4	0	0.29
4/6/2007		1	6:11	18:50	12:39	12	39	12.7	11.4	B. 1	313	47	8.3	23	-5.0	9.86	1.30	11.0	4.2	0	0.43
4/7/2007		1	6:10	18:51	12:40	12	41	12.7	11.4	9.6	371	39	3.9	12	-11.1	0.68	1.43	3.1	1.6	×	0.45
4/8/2007		0	6:09	18:51	12:42	t2	42	12.7	12.7	6.7	259	39	3.9	16	-8.9	9.64	0.97	1.I	1.1	Ť	0.37
4/9/2007		5	6:08	16:52	12:44	12	44	12.7	6.4	5.t	197	46	7.8	26	-3.3	0.64	0.97	10.6	4.3	ò	0.26
4/10/2007		1	6:06	18:53	12:47	12	47	12.8	11.5	4.3	166	49	9.4	29	-1.7	0.86	1.30	11.8	5.4	Ť	0.25
4/11/2007		9	6:05	18:54	12:49	12	49	12.8	1.3	5.4	209	51	19.6	48	8.9	1.39	1.80	12.7	11.4	0.43	0.06
4/12/2007		2	6:04	18:54	12:50	12	50	126	10.3	10.7	413	62	16.7	39	3.9	1.33	2.02	18.9	#1	T	0.86
4/13/2007		0	6:03	18:55	12:52	12	52	12.9	12.9	3.5	135	57	13.9	36	2.3	Lt15	1.69	15.9	7.2	0.01	0.30
4/14/2007		3	6:01	18:56	12:55	12	55	12.9	9.0	5.5	212	62	16.7	50	10.0	1.33	2.02	18.9	12.3	0.85	0.31
4/15/2007		B	6:00	18:57	12:57	12	57	13.0	24	13.2	519	35	12.8	47	IJ	0.995	151	14.7	11.0	0.16	0.36
4/16/2007		0	5:59	18:57	12:58	12	58	13.6	13.0	12.6	467	54	13.2	29	-1.7	1.04	1.58	143	5.4	0	0.50
4/17/2007		0	5:58	18:58	13:00	13	0	13.0	13.0	5.5	212	61	141	31	-8-6	1.19	1.80	18-3	5.9	Ť	0.56
4/18/2007		0	5:56	18:59	13:03	13	3	13.1	13.1	3.8	147	61	16.1	39	3.9	1.04	1.58	18.3	4.1	0	0.37
4/19/2007		1	5:55	18:59	13:04	13	4	13.1	11.5	6.7	259	62	16.7	46	7.8	1.115	1.69	18.9	10.6	0.02	0.46
4/20/2007		6	5:54	19:00	13:06	13	6	13.1	5.3	5.7	220	57	13.5	45	7.2	1.04	1.58	15.9	10.2	0	0.27
4/21/2007		0	5:53	19:01	13:08	13	8	13.1	13.1	2.1	#1	59	15.0	40	4.4	1.115	1.69	17.0	8.4	0	0.22
4/22/2007		0	5:52	19:02	13:19		10	13.2	13.2	4.4	170	61	16.1	40	44	1.19	1.80	18.3	2.4	0	9.40
4/23/2007		0	5:51	19:02	13:11	13	u	13.2	13.2	B.1	313	66	18.9	50	10.0	1.26	1.91	21.8	12.3	0	9.66
4/24/2007		1	5:50	19:03	13:13	13	13	13.2	11.5	8.4	324	71	21.7	55	12.0	1.485	2.25	25.9	14.7	0	4.72
4/23/2007		1	5:48	19:04	13:16		16	13.3	11.9	9.1	351	71	21.7	54	12.2	1.485	2.25	25.9	14.3	0	0.81
4/26/2007 4/27/2007		2	5:47 5:46	19:05	13:18		16	13,3	10.6	8.2	317	73	27.0	57	13.9	1.64	248	27.7	15.9	0.01	0.75
4/28/2007		5	5:45	19:06 19:06	13:20	13 13	20 21	13.3 13.4	6.7	9.5	367	72	22.2	55	13.8	1.7	2.58	26.7	14.7	0.41	4.36
4/29/2007		ė	5:44	19:07	13:23		23			6.2	239	65	18.3	46	7.8	1.33	2.02	21.0	10.6	0	0.54
4/30/2007		ů	5:43	19:08	13:25	13	25	13.4 13.4	13.4 13.4	4.5	174	67	19.4	46	7.1	1,33	2.52	22.6	10.6	•	9.49
5/1/2007		•	5:42	19:09	13:27	13	27	13.5	13.5	3.2 5.1	124 197	68 7t	20.0	45 48	7.2	1.485	2.25	23.3	10.2	0	0.43
5/2/2007		2	5:41	19:09	13:28	13	28	13.5	10.8	7,7	297	76	21.7 24.4	46 53	8.9	1.563	2.57	25.9	11.4	0	4.64
5/3/2007		î	5:40	19:10	13:30	13	30	13.5	9.5	6.9	264	75	23.9		11.7 13.3	1.64	2.48	30.6	13.7	•	1.03
5/4/2007		6	5:39	19:11	13:32		32	13.5	5.4	8.7	336	60	15.6	56 55	12.8	1.565 1.565	2.37	29.6	15.3		0.79
5/5/2007		9	5:38	19:13	13:34	13	34	13.6	1.4	5.0	193	58	14.4	56	13.3	1.33	1.37 1.02	17.6	14.7	0	4.19
5/6/2007		,	5:37	19:12	13:35	13	25	13.6	4.1	8.0	309	64	17.8	48	8.9	1.33	2.02	16.4 20.3	15.3	0.72	0.05
5/7/2007		0	5:36	19:13	13:37	13	37	13.6	13.6	10.2	394	57	13.9	34	1.1	1.115	1.69	15.9	11.4	•	0.56
5/0/2007		2	5:36	19:14	13:38	13	39	13.6	10.9	11.0	425	63	17.3	46	7.8	1.33	1.02	19.6	4.6 10.6	v	4,74
5/9/2007		6	5:35	19:15	13:40	13	40	13.7	5.5	9.6	371	70	21.1	58	14.4	1.64	2.45	25.0	16.4	ŏ	4.73
5/10/2007		2	5:24	19:15	13:41	13	41	13.7	14.9	3.5	135	70	21.1	59	15.0	1.64	1.48	15.0	17.0	ō	0.62 9.16
5/11/2007		ı	5:33	19:16	13:43	13	43	13.7	123	2.3	39	72	32.2	60	15.6	1.64	1.48	26.7	17.6	ŏ	9.25
5/12/2007		2	5:32	t9:17	13:45	13	45	13.8	11.0	4.3	166	75	23.9	63	17.2	1.7	158	29.6	19.6	0.05	0.39
5/13/2007		3	5:31	19:18	13:47	13	47	13.8	7.6	6.1	236	73	21.8	60	15.6	1.795	1.72	27.7	17.6	0.01	0.51
5/14/2007		0	5:31	19:18	13:47	13	47	t3.8	13.8	4.9	189	66	18.9	47	8.3	1.41	2.14	21.5	31.0	0.01	0.47
1/15/2007		0	5:30	19.19	13:49	13	49	13.8	13.6	5.2	261	65	18.3	51	19.6	1.33	2.02	21.0	12.7	ě	0.37
5/16/2007		4	5:29	19:20	13:51	Ļ3	51	13.9	8.3	9.2	355	72	22.3	59	15.0	1.565	1.37	26.7	17.0	4.01	0.68
5/17/2007		5	5:29	19:20	13:51	13	51	13.9	6,9	5.4	109	62	20.0	51	10.6	1.485	1.15	23.3	12.7		0.49
5/18/2007		2	5:28	19:21	13:53	13	53	13.9	11.1	8.7	336	65	18-3	41	5.0	1.33	2.02	21.0	8.7	ě	0.83
5/19/2007		٠	5:27	19:22	13:55	13	55	13.9	13.9	4.4	170	60	15.6	38	3.3	1.26	1.91	17.6	7.8	Ť	0.40
5/20/2007		0	5:27	19:23	13:56	13	56	13.9	13.9	2.5	97	65	18.3	45	7.2	1.33	2.03	21.0	10.3	Ġ	0.31
5/21/2007		0	5:76	19:23	13:57	13	57	14.6	14.0	2.9	112	68	20.0	46	7.8	1.485	2.15	23.3	18.6	ŭ	0.40
5/22/2007		•	5:26	19:24	13:58	13	58	14.0	14.0	48	185	73	21.7	52	11.	1.565	237	25.9	13.2		0.40
	rvg. close	0.44																	13-4	•	V

Eximated avg solar rediction (callent (day) received		APR	MAY
at the upper edge of the amosphere at ~33° N latitude		855	930
Mean daily solar radiation (cal/cm²/day) for the month		596	44
Lasens heat of vaporization (cal/g)	590		
Net radiation, H. (cm/day of evaporation)		1.41	1.10
Meon wind speed (km/day)		254	247
Psychometric constant, 7(mb/*C)	4.66		
Mean Penman's parameter (dimensionless)		1.79	2.25
Mean ambient temperature (°C)		14.9	28,0
Mean dew point (*C)		5.7	16.7
Mean maxs transfer contribution (cn/day)		♦.40	9.55
EVAPORATION (cm/mouth)		23.7	26.9

APPENDIX F
STREAM FLOWRATE CALCULATIONS
BARITE HILL GOLD MINE
TRIP REPORT
JUNE 2007

STREAM FLOWRATE DATA AND CALCULATIONS

By Channel Area

	BH247-2		BH2	247-3	At Seep Area	1 (under tree)	BH247-4		
Channel Area				i					
Width		in	4	in	1.5	in	5	ín	
Depth	0.25	in	0.125	in	0.5	in	1.75	in	
Area	0.5	in2	0.5	in2	_0.75		8.75	in2	
	0.003472222	ft2,	0.003472222	ft2	0.005208333	ft2	0.060763889	ft2	
Distance	- 1	in	3	in	4	in	NA	in	
Time	2	sec.	1	sec	0.5	sec	NA	sec	
Velocity	0.16666667	ft/sec	0.25	ft/sec	0.666666667	ft/sec	0.11	ft/sec	
Flowrate	0.000578704	ft3/sec	0.000868056	ft3/sec	0.003472222	ft3/sec	0.006684028	ft3/sec	
	7.48	Gal/Ft3	7.48	Gal/Ft3	7.48	Gal/Ft3	7.48	Gal/Ft3	
	0.004328704	gal/sec	0.006493056		0.025972222		0.049996528	gal/sec	
	0.259722222	Gal/min gpm		Gal/min gpm		Gal/min gpm		Gal/min gpm	

						
By "Defined Volume Method"	Flow From Under Tree		BH247-7	-	BH247-8	
Cup Volume	0.07029	gal	0.07029	gal	0.07029	gal
Time	45	sec_	3	sec _	1	sec
Flowrate	0.001562		0.02343	gal/sec	0.07029	gai/sec
Cup Volume = 9 oz, or .07029 gal	0.09372	gpm	1.4058	gpm	4.2174	gpm

APPENDIX G
DETERMINATION OF 100, 250 and 500 YEAR 24 HOUR RAINFALL EVENTS
BARITE HILL GOLD MINE
TRIP REPORT
JUNE 2007

Determination of 100, 250 and 500 year 24 Hour Rainfall Events

A request was made to determine the 100-year, 250-year, and 500-year 24-hour rainfall in the area of the Barite Hill Gold Mine Site in McCormick, SC. This task was accomplished with the following steps:

- 1. Hourly rainfall data from Greenville-Spartanburg, SC was obtained from the National Climatic Data Center. The maximum one-hour rainfall for each year was recorded.
- 2. The maximum one-hour yearly rainfall was entered into one column of an Excel spreadsheet and sorted from the highest value to the lowest value. A column titled rank was entered and values from 1 through 54 were entered to correspond to the highest yearly rainfall values.
- 3. A column labeled recurrence interval was added and used to calculate the expected interval between rainfall events of particular amounts. This was determined by the formula,

$$R = (N + 1)/M$$
, where
 $N = \text{number of observations}$
 $M = \text{rank}$

4. The y-intercept and slope for the recurrence intervals and 24-hour rainfall values were calculated by respective Excel built-in functions.

The predicted 100-year, 250-year, and 500-year 24-hour rainfalls were calculated by the formula,

$$y = a + bx$$
, where
 $a = y$ -intercept
 $b = slope$
 $X = time interval$

Sheet1

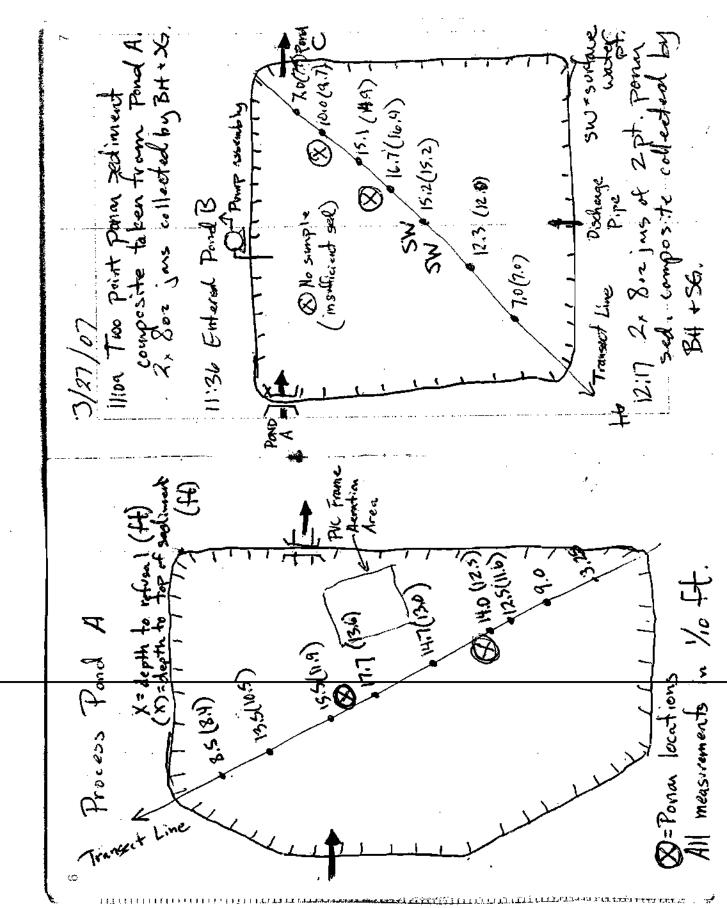
				Sheet1		•
<u>Year</u>	Rank	Recurrence Interval	Max 24-hr Rainfa	AII		
1995	1	55.0	9.32	Hurricane Jerry	• .	2 554 500050
1951	2	27.5	6.20	numcane Jeny		2.571639279
1949	3	18.3			slope	0.14
1990			5.32			
	4	13.8	4.48		100-yr 24-hr rainfall	
1973	5	11.0	4.38		250-yr 24-hr rainfall	36,66826167
1956	6	9.2	4.34		500-yr 24-hr rainfall	70.76488406
1964	7	7.9	4.21			
1969	8	6.9	4.21			
1966	9	6.1	4.21			
1972	10	5.5	4.19			
1975	11	5.0	3.95			
1963	12	4.6	3.89			
1977	13	4.2	3.86			
1968	14	3.9	3.77			
1997	15	3.7	3.64			
1980	16	3.4	3.58			
1976	17	3.2	3.57			
1987	18	3.1	3.49			
1960	19	2.9	3.29			
1986	20	2.8	3.25			
1979	21	2.6	3.25			
1982	22	2.5	3.24			
1984	23	2.4	3.23			
2002	24	2.3	3.15			
1999	25	2.2	3.01			
2000	26	2.1	2.96			
1994	27	2.0	2.95			
1985	28	2.0	2.90			
1950	29	1.9	2.85			
1967	30	1.8				
1955	31	1.8	2.81			
1952	32	1.7	2.77			
1992	33	1.7	2.67			
1959	34	1.6	2.63			
1989	35	1.6	2.59			
1953	36	1.5	2.57			
1971	37		2.56			
1962	38	1.5	2.56			
1961	39	1.4	2.48			
1981	40	1.4	2.48			
1998	41	1.4	2.46			
1974		1.3	2.44			
	42	1.3	2.36			
1970	43	1.3	2.35			
1991	44	1.3	2.30			
1978	45	1.2	2.30			
1965	46	1.2	2.27			
1996	47	1.2	2.25			
2001	48	1.1	2.21			
1993	49	1.1	2.02			
1983	50	1.1	2.02			
1958	51	1.1	1.94			
1954	52	1.1	1.90			
1957	53	1.0	1.80			
1988	54	1.0	1.76			

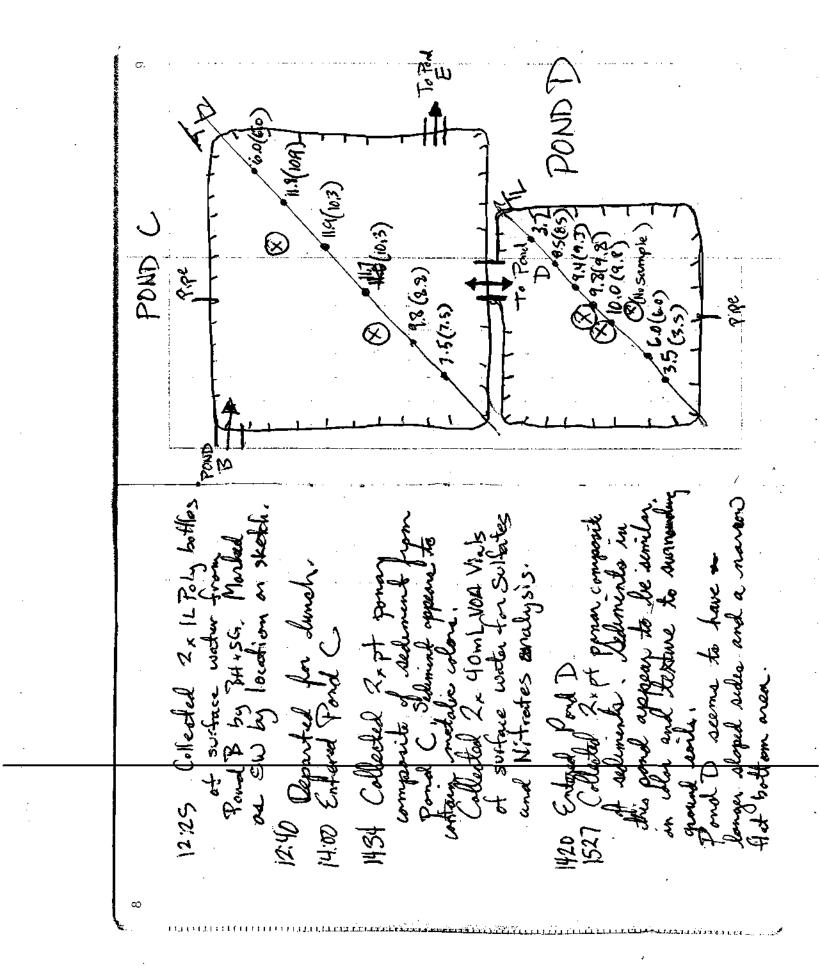
Page 1

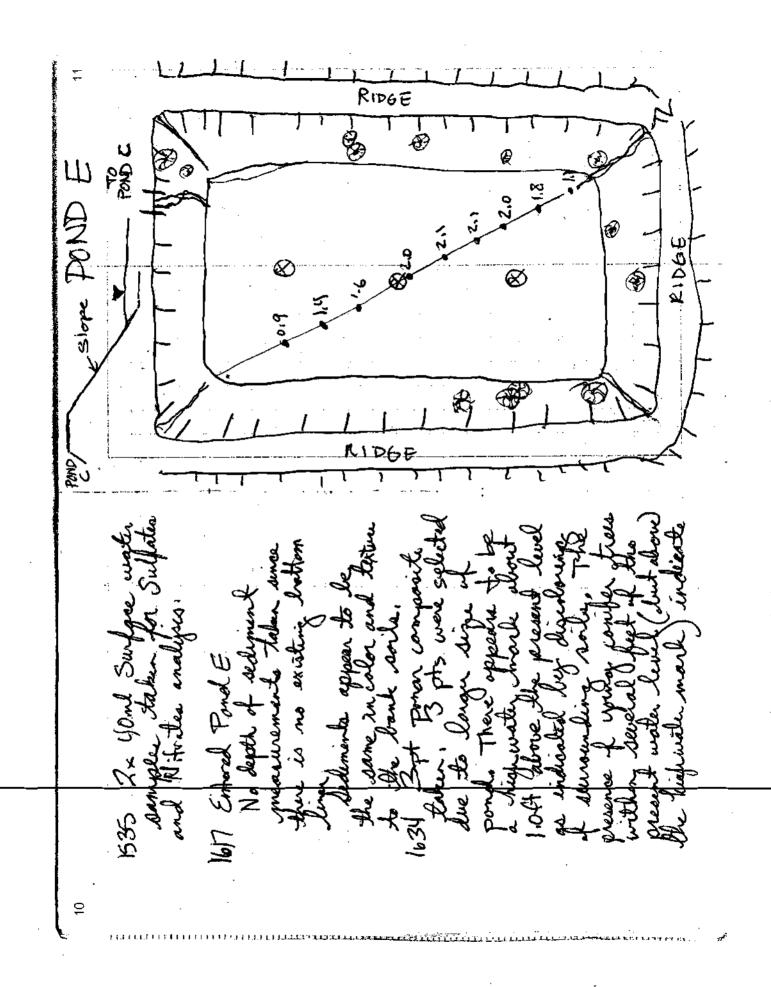
APPENDIX H SEDIMENT SAMPLING FIELD NOTES AND SEDIMENT VOLUME CALCULATIONS BARITE HILL GOLD MINE TRIP REPORT JUNE 2007

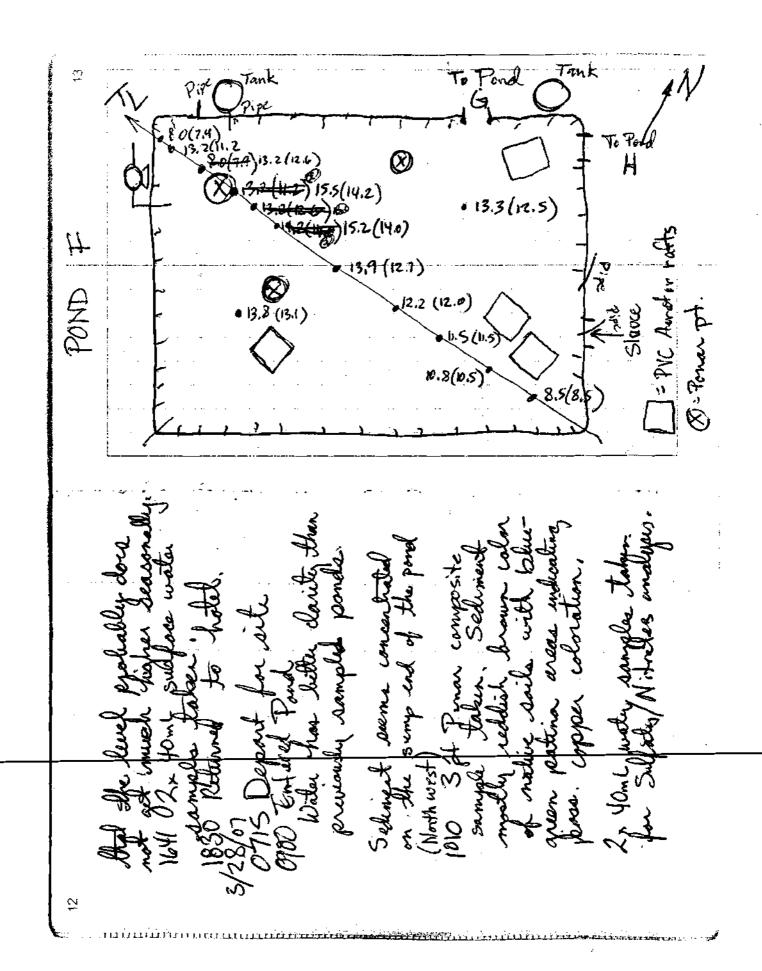
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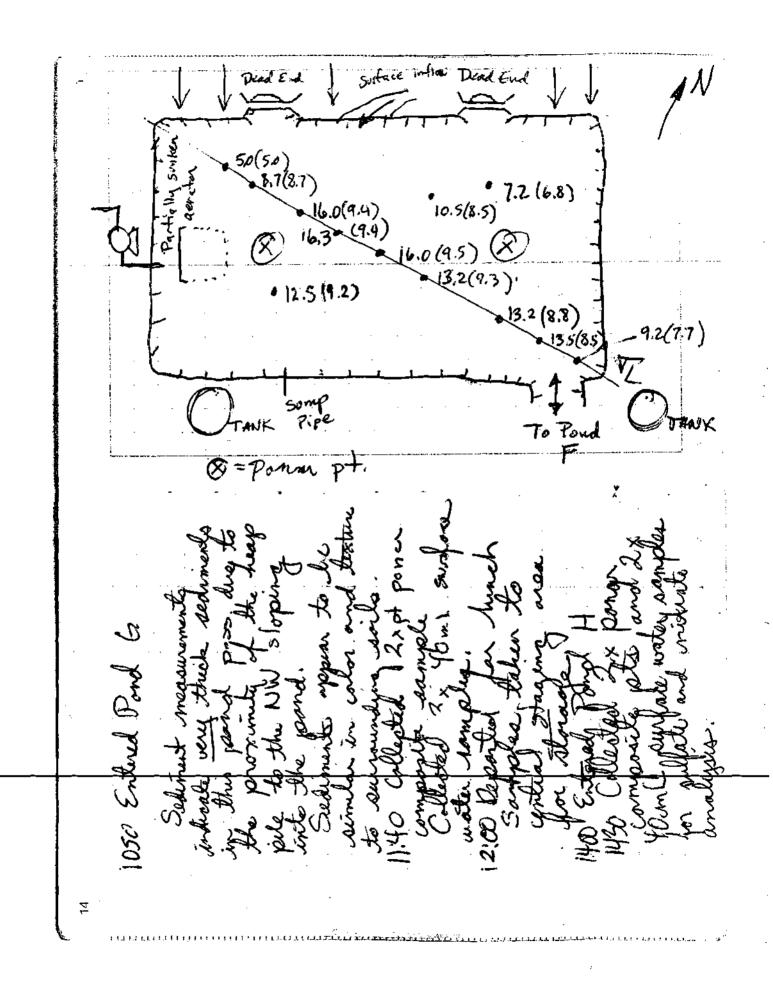
SITE LOGBOOK NOTES: B. HOLDERMESS

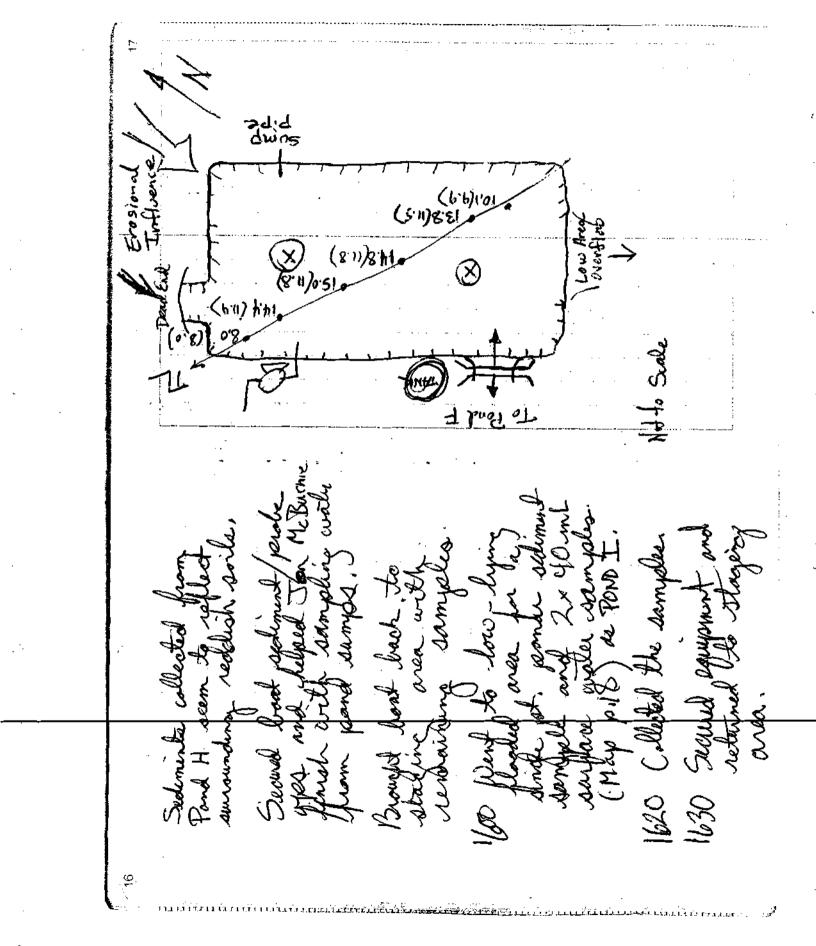


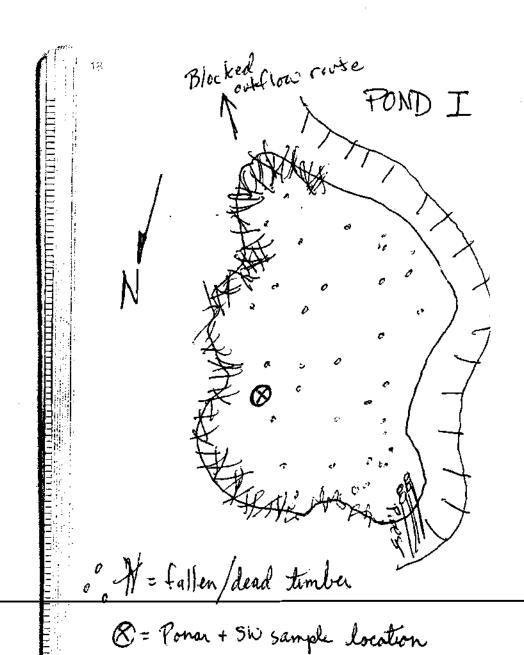












	-	CALCULATIO	N OF SEDIMEN	T DEPTHS ANI	VOLUMES	
Location	Depth to Bottom	Depth to Sediment	Depth of Sediment	Location	Depth to Bottom	
	Pon	A b				
1	3.25	3.25	0	1	8.5	
2	9	9	0	2	10.8	
3	12.5	11.6	0.9	3	11.5	
4	14	12.5	1.5	4	12.2	
5	14.7	13	1.7	5	13.9	
6	17.7	13.6	4.1	6	15.2	
7	15.5	11.9	3.6	7 _	15. <u>5</u>	
8	13.5	10.5	3	8	13.2	
9	8.5	8.4	0.1	9	_13.2	
Average De			1.66	10	8 _	
	ea (Square Feet):		36700	11	13.3	
Average De	epth * Surface Area (f	t3):	60759	Average De	epth (feet):	
Estimated 5	Sediment Volume (yd		2251	Surface Area (Square Fee		
	Pon	d B			epth * Surface	
1	77	7_	0	Estimated S	Sediment Volur	
2	10	9.7	0.3			
3	15.1	14.9	0.2	1	5	
4	_ 16.7	16.4	0.3	2	8.7	
5	15.2	15.2	<u> </u>	3	16	
6	12.3	12	0.3	4	16.3	
7	7	77	0	5	16	
Average Do			0.16	6	13.2	
	ea (Square Feet):		18200	7	13.2	
	epth * Surface Area (t		2860	8	13.5	
Estimated :	Sediment Volume (yd		106	9	9.2	
1	Pon			10	10.5	
11	7.5	7.5	0	11	7.2	
2	9.8	8.8	1	12	12.5	
3	11.7	10.3	1.4	Average De		
1 4	11.9	10.3	1.6		ea (Square Fee	
_ 5	11.8	10.9	0.9		epth * Surface	
6	6	6	0	Estimated S	Sediment Volu	
Average De			0.82			
Surface Are	ea (Square Feet):		16600	1	10.1	
	epth * Surface Area (13557	2	13.8	
Estimated :	Sediment Volume (yd		502	3	14.8	
	Pon			4	15	
11	3.5	3.5	0	5	14.4	
2	6	6	0	6	8	
3	10	9.8	0.2	Average De		
4	9.8	9.8	0		ea (Square Fe	
5	9.4	9.3	0.1	Average De	epth * Surface	
6_	8.5	8.5	0	Fstimated 9	Sediment Volu	
77	3.2	3.2	0			
Average De			0.04			
	ea (Square Feet):		8300			
Average Depth * Surface Area (ft3): Estimated Sediment Volume (yd3):			356			
			13			

Depth to Sediment Sediment									
Sediment Sediment	Location	Depth to	Depth to	Depth of					
1 8.5 8.5 0				Seament					
2 10.8 10.5 0.3 3 11.5 11.5 0 4 12.2 12 0.2 5 13.9 12.7 1.2 6 15.2 14 12 7 15.5 14.2 1.3 8 13.2 12.6 0.6 9 13.2 11.2 2 10 8 7.9 0.1 11 13.3 12.5 0.8 Average Depth (feet): 0.70 Surface Area (Square Feet): 100,000 Average Depth * Surface Area (fi3): 2593 Pond G 1 5 5 0 2 8.7 8.7 0 3 16 9.4 6.6 4 16.3 9.4 6.9 5 16 9.5 6.5 6 13.2 9.3 3.9 7 13.2 8.8 4.4 8 13.5 8.5 5 9 9.2 7.7 1.5 10 10.5 8.5 2 11 7.2 6.8 0.4 12 12.5 9.2 3.3 Average Depth (feet): 3.38 Estimated Sediment Volume (yd3): 2593 Average Depth * Surface Area (fi3): 2593 Pond G 1 5 5 0 2 8.7 8.7 0 3 16 9.4 6.6 4 16.3 9.4 6.9 5 16 9.5 6.5 6 13.2 9.3 3.9 7 13.2 8.8 4.4 8 13.5 8.5 5 9 9.2 7.7 1.5 10 10.5 8.5 2 11 7.2 6.8 0.4 12 12.5 9.2 3.3 Average Depth (feet): 3.38 Estimated Sediment Volume (yd3): 3363 Pond H 1 10.1 9.9 0.2 2 13.8 11.5 2.3 3 14.8 11.8 3.2 5 14.4 11.4 3 6 8 8 0 Average Depth (feet): 1.95 Surface Area (Square Feet): 4.290 Average Depth (feet): 1.95 Surface Area (Square Feet): 22200 Average Depth * Surface Area (fi3): 22200									
3 11.5 11.5 0 4 12.2 12 0.2 5 13.9 12.7 1.2 6 15.2 14 12 7 15.5 14.2 1.3 8 13.2 12.6 0.6 9 13.2 11.2 2 10 8 7.9 0.1 11 13.3 12.5 0.8 Average Depth (feet): 0.70 Surface Area (Square Feet): 100,000 Average Depth * Surface Area (ff3): 70000 Estimated Sediment Volume (yd3): 2593 Pond G 1 5 5 0 2 8.7 8.7 0 3 16 9.4 6.6 4 16.3 9.4 6.9 5 16 9.5 6.5 6 13.2 9.3 3.9 7 13.2 8.8 4.4 8 13.5 8.5 5 9 9.2 7.7 1.5 10 10.5 8.5 2 11 7.2 6.8 0.4 12 12.5 9.2 3.3 Average Depth (feet): 3.38 Surface Area (Square Feet): 26900 Average Depth (feet): 3.38 Surface Area (Square Feet): 26900 Average Depth (feet): 3.38 Surface Area (Square Feet): 26900 Average Depth * Surface Area (ff3): 90788 Estimated Sediment Volume (yd3): 3363 Pond H 1 10.1 9.9 0.2 2 13.8 11.5 2.3 3 14.8 11.8 3 4 15 11.8 3.2 5 14.4 11.4 3 6 8 8 8 0 Average Depth (feet): 1.95 Surface Area (Square Feet): 22200 Average Depth * Surface Area (ff3): 22200 Average Depth * Surface Area (ff3): 22200 Average Depth * Surface Area (ff3): 22200									
4 12.2 12 0.2 5 13.9 12.7 1.2 6 15.2 14 1.2 7 15.5 14.2 1.3 8 13.2 12.6 0.6 9 13.2 11.2 2 10 8 7.9 0.1 11 13.3 12.5 0.8 Average Depth (feet): 0.70 0.70 Surface Area (Square Feet): 100,000 0.70 Average Depth * Surface Area (ft3): 70000 Estimated Sediment Volume (yd3): 2593 Pond G 1 5 5 0 2 8.7 8.7 0 3 16 9.4 6.6 4 16.3 9.4 6.9 5 16 9.5 6.5 6 13.2 9.3 3.9 7 13.2 8.8 4.4 8 13.5 8.5 5 9 9.2 7.7 1.5 10									
5 13.9 12.7 1.2 6 15.2 14 1.2 7 15.5 14.2 1.3 8 13.2 12.6 0.6 9 13.2 11.2 2 10 8 7.9 0.1 11 13.3 12.5 0.8 Average Depth (feet): 0.70 0.70 Surface Area (Square Feet): 100,000 0.70 Average Depth * Surface Area (ft3): 70000 0.70 Estimated Sediment Volume (yd3): 2593 Pond G 1 5 5 0 1 5 5 0 <t< td=""><td></td><td></td><td></td><td></td></t<>									
6 15.2 14 1.2 7 15.5 14.2 1.3 8 13.2 12.6 0.6 9 13.2 11.2 2 10 8 7.9 0.1 11 13.3 12.5 0.8 Average Depth (feet): 0.70 Surface Area (Square Feet): 100,000 Average Depth * Surface Area (ft3): 2593 Pond G 1 5 5 0 2 8.7 8.7 0 3 16 9.4 6.6 4 16.3 9.4 6.9 5 16 9.5 6.5 6 13.2 9.3 3.9 7 13.2 8.8 4.4 8 13.5 8.5 5 9 9.2 7.7 1.5 10 10.5 8.5 2 11 7.2 6.8 0.4 12 12.5 9.2 3.3 Average Depth (feet): 3.38 Average Depth * Surface Area (ft3): 90788 Estimated Sediment Volume (yd3): 363 Pond H 1 1 0.1 9.9 0.2 2 13.8 11.5 2.3 3 14.8 11.8 3 4 15 11.8 3.2 5 14.4 11.4 3 6 8 8 8 0 Average Depth (feet): 1.95 Surface Area (Square Feet): 22200 Average Depth * Surface Area (ft3): 22200 Average Depth * Surface Area (ft3): 22200 Average Depth * Surface Area (ft3): 22200			127						
7 15.5 14.2 1.3 8 13.2 12.6 0.6 9 13.2 11.2 2 10 8 7.9 0.1 11 13.3 12.5 0.8 Average Depth (feet): 0.70 Surface Area (Square Feet): 100,000 Average Depth * Surface Area (ft3): 70000 Estimated Sediment Volume (yd3): 2593 Pond G 1 5 5 0 2 8.7 8.7 0 3 16 9.4 6.6 4 16.3 9.4 6.9 5 16 9.5 6.5 6 13.2 9.3 3.9 7 13.2 8.8 4.4 8 13.5 8.5 5 9 9.2 7.7 1.5 10 10.5 8.5 2 11 7.2 6.8 0.4 12 12.5 9.2 3.3 Average Depth (feet): 3.38 Surface Area (Square Feet): 26900 Average Depth * Surface Area (ft3): 90788 Estimated Sediment Volume (yd3): 3363 Pond H 1 10.1 9.9 0.2 2 13.8 11.5 2.3 3 14.8 11.8 3.2 5 14.4 11.4 3 6 8 8 8 0 Average Depth (feet): 1.95 Surface Area (Square Feet): 22200 Average Depth * Surface Area (ft3): 22200									
8 13.2 12.6 0.6 9 13.2 11.2 2 10 8 7.9 0.1 11 13.3 12.5 0.8 Average Depth (feet): 0.70 Surface Area (Square Feet): 100,000 Average Depth * Surface Area (ft3): 70000 Estimated Sediment Volume (yd3): 2593 Pond G 1 5 5 0 2 8.7 8.7 0 3 16 9.4 6.6 4 16.3 9.4 6.9 5 16 9.5 6.5 6 13.2 9.3 3.9 7 13.2 8.8 4.4 8 13.5 8.5 5 9 9.2 7.7 1.5 10 10.5 8.5 2 11 7.2 6.8 0.4 12 12.5 9.2 3.3 Average Depth (feet): 3.38 Surface Area (Square Feet): 26900 </td <td></td> <td></td> <td></td> <td></td>									
9 13.2 11.2 2 10 8 7.9 0.1 11 13.3 12.5 0.8 Average Depth (feet): 0.70 Surface Area (Square Feet): 100,000 Average Depth * Surface Area (ft3): 70000 Estimated Sediment Volume (yd3): 2593 Pond G 1 5 5 0 2 8.7 8.7 0 3 16 9.4 6.6 4 16.3 9.4 6.9 5 16 9.5 6.5 6 13.2 9.3 3.9 7 13.2 8.8 4.4 8 13.5 8.5 5 9 9.2 7.7 1.5 10 10.5 8.5 2 11 7.2 6.8 0.4 12 12.5 9.2 3.3 Average Depth (feet): 3.38 Surface Area (Square Feet): 26900 Average Depth * Surface Area (ft3): 90788 Estimated Sediment Volume (yd3): 3363 Pond H 1 10.1 9.9 0.2 2 13.8 11.5 2.3 3 14.8 11.8 3 4 15 11.8 3.2 5 14.4 11.4 3 6 8 8 8 0 Average Depth (feet): 1.95 Surface Area (Square Feet): 22200 Average Depth * Surface Area (ft3): 43290									
10 8 7.9 0.1 11 13.3 12.5 0.8 Average Depth (feet): 0.70 Surface Area (Square Feet): 100,000 Average Depth * Surface Area (ft3): 70000 Estimated Sediment Volume (yd3): 2593 Pond G 1 5 5 0 2 8.7 8.7 0 3 16 9.4 6.6 4 16.3 9.4 6.9 5 16 9.5 6.5 6 13.2 9.3 3.9 7 13.2 8.8 4.4 8 13.5 8.5 5 9 9.2 7.7 1.5 10 10.5 8.5 2 11 7.2 6.8 0.4 12 12.5 9.2 3.3 Average Depth (feet): 3.38 Surface Area (Square Feet): 26900 Average Depth * Surface Area (ft3): 90788 Estimated Sediment Volume (yd3): 3363 Pond H 1 10.1 9.9 0.2 2 13.8 11.5 2.3 3 14.8 11.8 3.2 5 14.4 11.4 3 6 8 8 8 0 Average Depth (feet): 1.95 Surface Area (Square Feet): 22200 Average Depth * Surface Area (ft3): 22200									
11 13.3 12.5 0.8 Average Depth (feet): 0.70 Surface Area (Square Feet): 100,000 Average Depth * Surface Area (ft3): 70000 Estimated Sediment Volume (yd3): 2593 Pond G 1 5 5 0 2 8.7 8.7 0 3 16 9.4 6.6 4 16.3 9.4 6.9 5 16 9.5 6.5 6 13.2 9.3 3.9 7 13.2 8.8 4.4 8 13.5 8.5 5 9 9.2 7.7 1.5 10 10.5 8.5 2 11 7.2 6.8 0.4 12 12.5 9.2 3.3 Average Depth (feet): 3.38 Surface Area (Square Feet): 26900 Average Depth *Surface Area (ft3): 90788 Estimated Sediment Volume (yd3): 3363 Pond H 1 10.1			7.9						
Average Depth (feet): Surface Area (Square Feet): Average Depth * Surface Area (ft3): Pond G 1									
Surface Area (Square Feet): 100,000 Average Depth * Surface Area (ft3): 70000 Estimated Sediment Volume (yd3): 2593 Pond G 1	Average De								
Average Depth * Surface Area (ft3): 70000 Estimated Sediment Volume (yd3): 2593 Pond G 1	Surface Are	a (Square Fee	et):	100,000					
Pond G 1	Average De	opth * Surface /	Area (ft3):	70000					
Pond G 1	Estimated S	Sediment Volur	ne (yd3):	2593					
2 8.7 8.7 0 3 16 9.4 6.6 4 16.3 9.4 6.9 5 16 9.5 6.5 6 13.2 9.3 3.9 7 13.2 8.8 4.4 8 13.5 8.5 5 9 9.2 7.7 1.5 10 10.5 8.5 2 11 7.2 6.8 0.4 12 12.5 9.2 3.3 Average Depth (feet): 3.38 Surface Area (Square Feet): 26900 Average Depth * Surface Area (ff3): 90788 Estimated Sediment Volume (yd3): 3363 Pond H 1 10.1 9.9 0.2 2 13.8 11.5 2.3 3 14.8 11.8 3 4 15 11.8 3.2 5 14.4 11.4 3 6 8 8 8 0 Average Depth (feet): 1.95 Surface Area (Square Feet): 22200 Average Depth * Surface Area (ff3): 1.95 Surface Area (Square Feet): 22200 Average Depth * Surface Area (ff3): 22200 Average Depth * Surface Area (ff3): 22200 Average Depth * Surface Area (ff3): 22200									
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APPENDIX I PHOTO DOCUMENTATION (IN CONJUNCTION WITH ENCLOSED CD) BARITE HILL GOLD MINE TRIP REPORT JUNE 2007

0247-DTR-062207

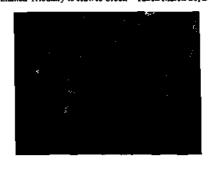
Barite Hill Gold Mine Site
- Taken March 26-30, 2007 and May 21, 2007

McCormick, SC Remedial Site Evaluation Photo Documentation Unnamed Tributary to Hawes Creek

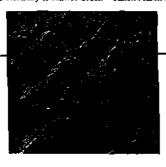




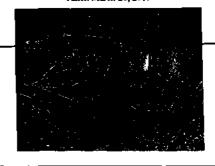
Picture 2
Unnamed Tributary to Hawes Creek – Taken March 26, 2007



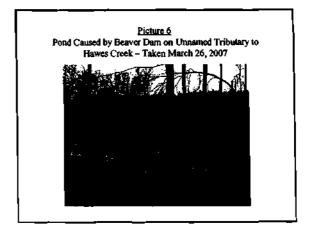
<u>Picture 3</u> Unnamed Tributary to Hawes Creek - Taken March 26, 2007

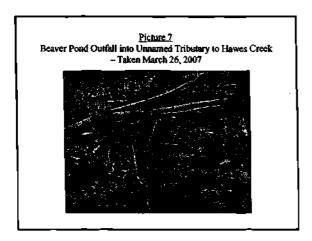


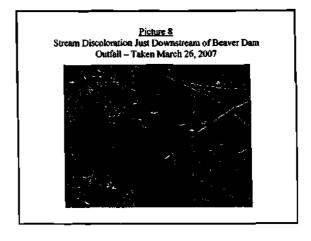
<u>Picture 4</u> Unnamed Tributary to Hawes Creek Dammed by Beaver – Taken March 26, 2007

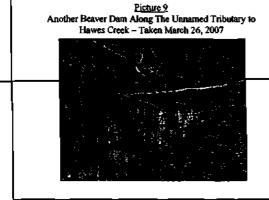


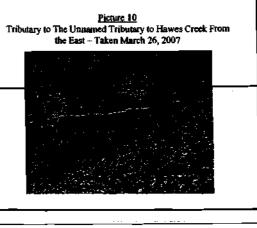
Picture 5
Pond Caused by Beaver Dam on Umamed Tributary to
Hawes Creek – Taken March 26, 2007

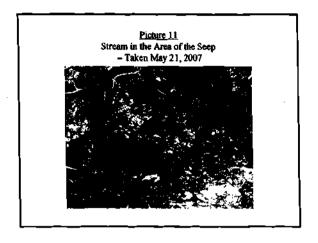


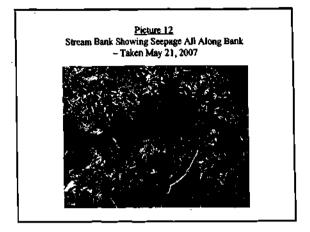


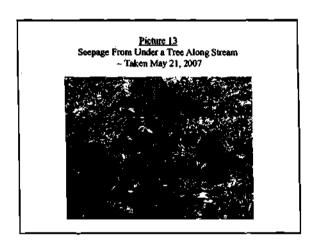


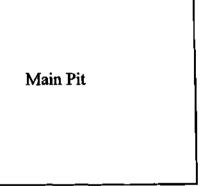


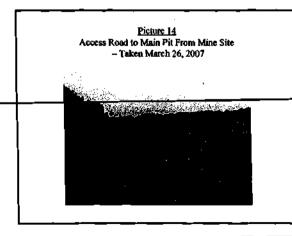


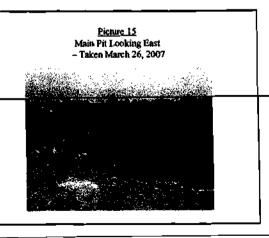


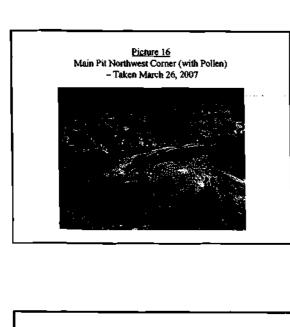


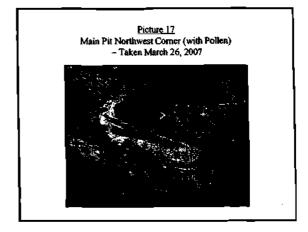


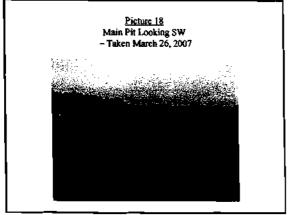


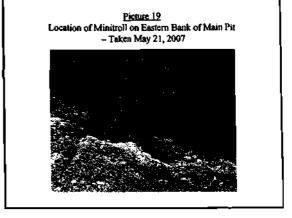


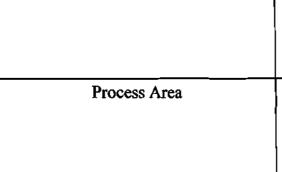


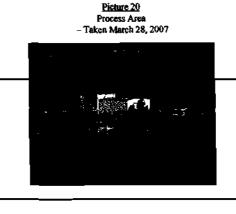


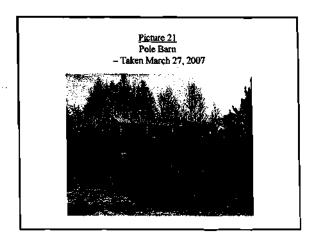


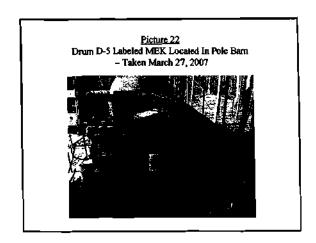


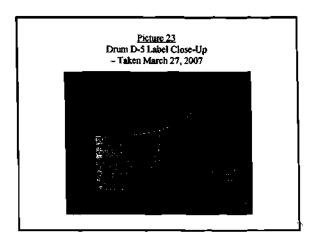


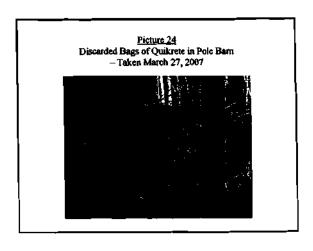


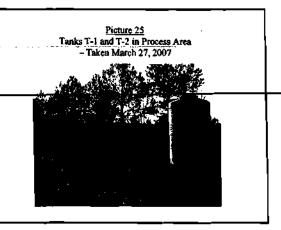


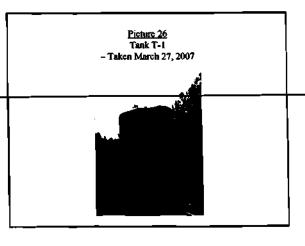


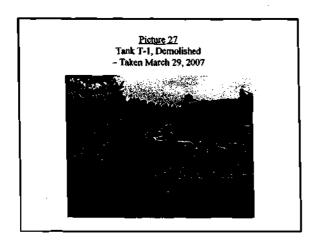


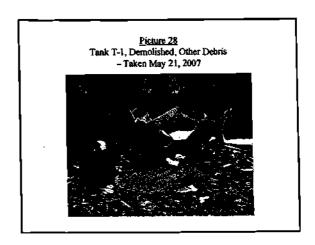


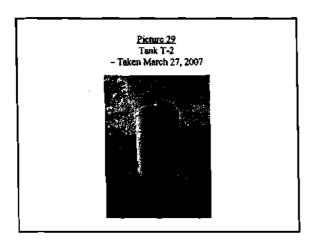


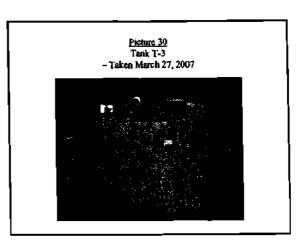


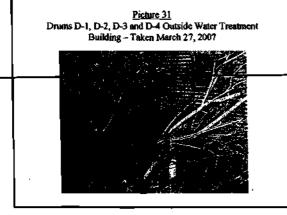


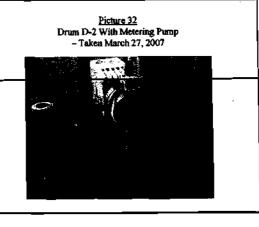


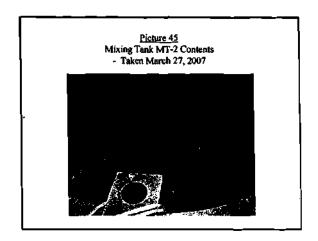


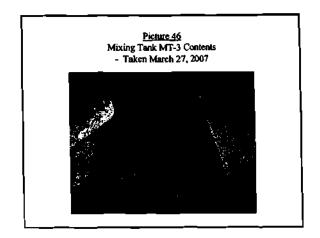




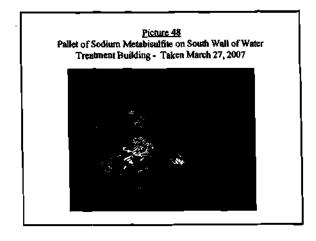


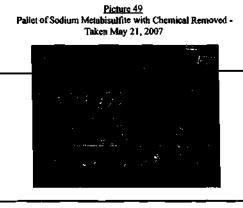


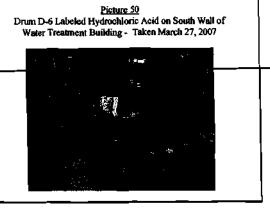


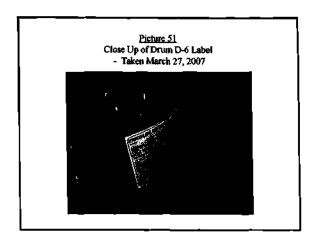


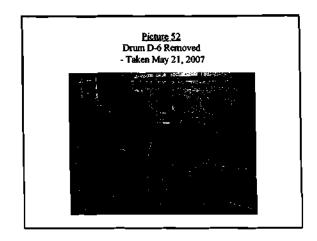
Picture 47
Mixing Tank MT-4 Contents
- Taken March 27, 2007

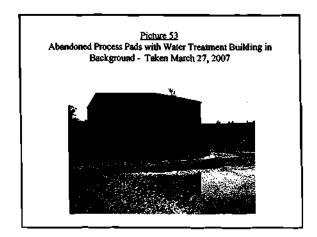


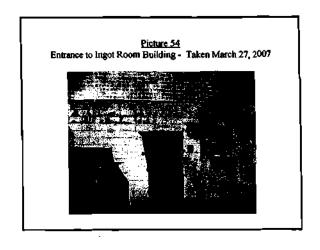


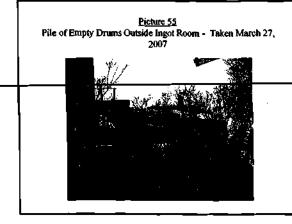


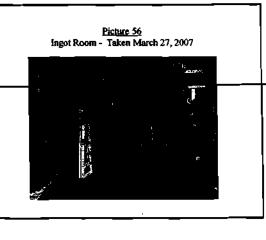


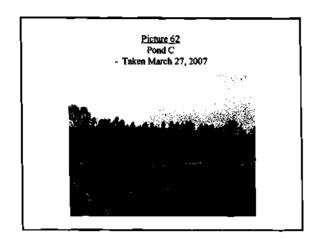


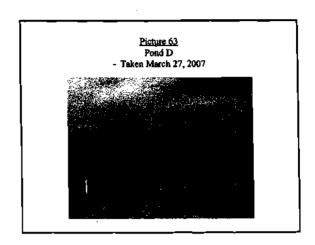


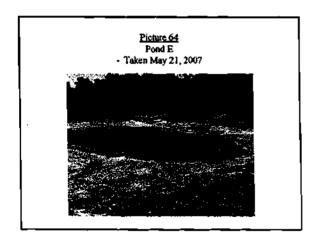




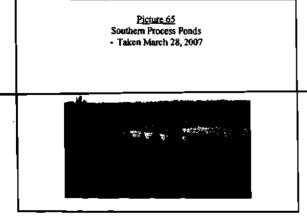


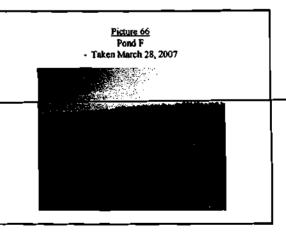


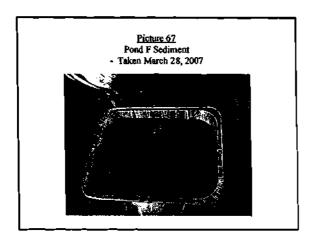


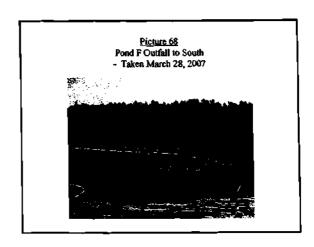


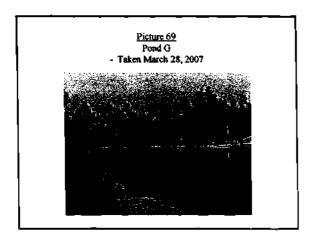
Southern Process Ponds

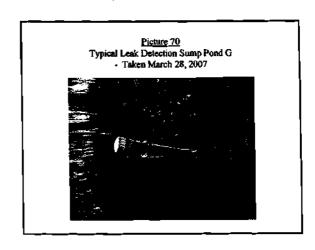


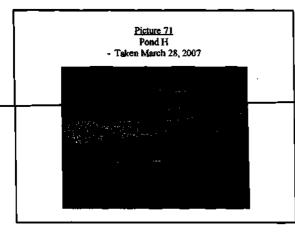


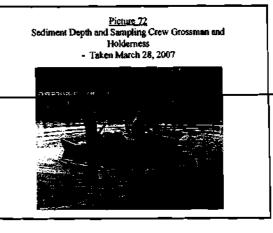


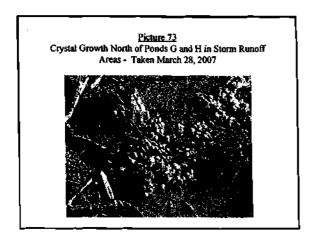


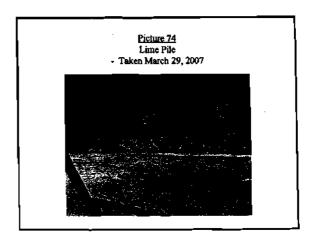












Sedimentation Pond

